

AGROFORESTRY FOR WET SOILS AND WATERWAYS

A Farmer's Guide



CONTENTS

- What is Agroforestry? 1
- Farming in the Pacific Northwest 2
- Agroforestry in Action 4
- Wet Feet Farming 6
- Bountiful Buffers 8
- Planning an Agroforestry System 10
 - Start with a Site Assessment 10
 - Key Planning Steps 11
 - Agroforestry Design Steps 12
 - Three High-Value Perennial Crops 15
 - Choosing Crops for Agroforestry Systems 22
- Planting for Agroforestry 23
- Long-Term Maintenance 26
- Local Research & Resources 28
 - Find Local Support 28



WHAT IS AGROFORESTRY?

Agroforestry is the intentional integration of trees, shrubs, crops, and animals to create environmental, economic, and social benefits. While agroforestry is sometimes considered a new, innovative way of farming, Coast Salish people and indigenous communities around the world have utilized these practices for centuries. Agroforestry systems can vary widely in their yield, biodiversity, and level of effort required for implementation and maintenance. They combine agriculture and forestry technologies to produce foods, fibers, animal forage, and medicinal products, while providing important ecosystem services.



FARMING IN THE PACIFIC NORTHWEST

Farmers in the Pacific Northwest (PNW) region often have soggy soils. With climate change, the total annual rainfall is concentrating into fewer months, and farmland is often inundated with periods of too much water followed by long, dry summers. As development in our region expands, this problem is exacerbated by the loss of trees and increase in impervious surfaces, which increases stormwater runoff.

The Pacific Northwest is also home to numerous waterways that support several salmon species, including Chinook, coho, pink, chum, and sockeye, which have significantly depleted runs many are at risk of extinction. Restoring the riparian areas along streams and rivers is a priority to improve habitat for salmon and help recover these species.





Agroforestry practices can help farmers increase production in areas of wet soils and can also contribute to healthier riparian areas. Wet Feet Farming and Bountiful Buffers are two programs that incorporate agroforestry practices to address these concerns. Wet Feet Farming aims to rejuvenate water-logged farmlands by integrating perennial crops that thrive in damp conditions – allowing farmers to increase productivity, improve climate resilience, diversify income streams, and enhance biodiversity. The Bountiful Buffers program combines traditional riparian buffers (trees planted along fish-bearing rivers/streams to improve salmon habitat) with agroforestry practices that enhance biodiversity and produce food, medicine, and other materials.

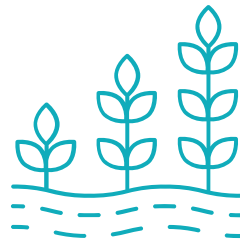
These programs were developed through a three-year research project to see how applied agroforestry concepts on farms could help farmers add economic, social, and ecological value to wet farmland, field edges, and areas along water bodies. This three-year project was funded by the Washington State Department of Agriculture (WSDA) Specialty Crop Block Grant Program and the Sustainable Agriculture Research and Education (SARE) programs.

Throughout this project, resource planners from Snohomish, Skagit, and Whidbey Island Conservation Districts and WSU Extension Forestry partnered with farms to test plantings of aronia berry, basketry willow, and cider apples grafted on native crabapple rootstock, and to research the benefits of harvestable riparian buffers.





Bow Hill Blueberries



AGROFORESTRY IN ACTION

Here is a snapshot of a few of the farms that participated in the research:

- **Bow Hill Blueberries** is the site of the oldest family-run blueberry farm in Skagit Valley. They partnered with Skagit Conservation District to plant a buffer with aronia, cascara, sitka willow, osoberry, and snowberry along the slough bordering their property. The buffer will give them an opportunity to diversify income, increase pollinator habitat, protect water quality, and shade out invasive reed canary grass.
- **Northwest Meadows** on Whidbey Island grows and sells native grass and wildflower seed for pollinator conservation, rain gardens, meadows, and wildlife habitat. They worked with Whidbey Island Conservation District to plant a dense and diverse hedgerow that included Pacific crabapple rootstock with French and Spanish cider apple varieties grafted onto the tops.
- **Rooted Northwest** is a unique agrivillage in Arlington that combines village living and permaculture farming. They partnered with Snohomish Conservation District to plant an alley cropping system with rows of aronia, hazelnuts, pawpaws, and elderberries with hay in the alleys.
- **Bell's Farm** on Whidbey Island is most well-known for their strawberries, and they also raise flowers, vegetables, and a "fherd" of Ancient White Park cattle, sheep, and pigs. Bell's Farm partnered with Whidbey Island Conservation District to install an alley cropping system adjacent to their irrigation pond. The plants in their rows include Pacific crabapple rootstock grafted with cider apple scion, native beaked hazelnut, blackcap raspberry, several varieties of ornamental willow, and California oatgrass. The alleys are planted with forage that they will eventually graze livestock through.



Northwest Meadows



Rooted Northwest

- **Tangled Thicket Farm** is small farm in the Skagit Valley that focuses on providing delicious, organically-grown produce and pasture-raised eggs using sustainable practices and working with the land in a meaningful partnership. They worked with Skagit Conservation District to put in a native plant hedgerow buffer along a drainage swale that runs through their property.
- **Sweetwater Farm** is a regenerative farm on Whidbey Island incorporating forest farming, food forests, silvopasture, water catchment, and renewable energy, including a solar-powered farm stand. Water quality data is being gathered from a stream that runs through the farm before and after planting a harvestable riparian buffer to measure the effectiveness of the buffer in filtering pollution.
- **Reinhard River Ranch** is a small family farm in the Snohomish River Valley. The diversified farm incorporates a food forest with cut flower production and U-pick blueberries. The farmers also raise horses and chickens on their lush pastures. They have worked with the Snohomish Conservation District to implement agroforestry practices including a harvestable riparian buffer along a drainage ditch.



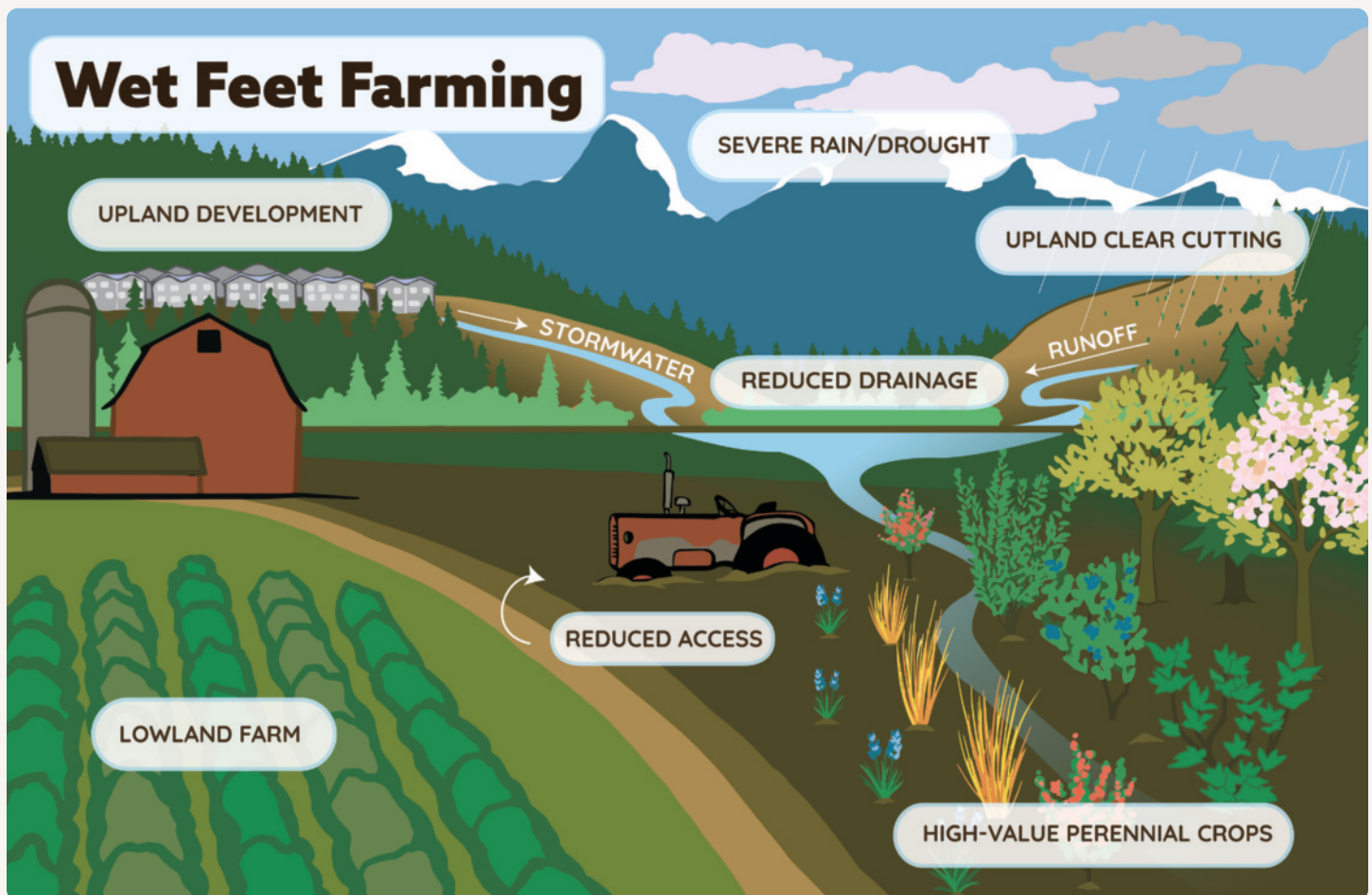
Bell's Farm



Tangled Thicket Farm



Sweetwater Farm



“Wet Feet Farming” is applying agroforestry practices to seasonally wet or marginal lands. These areas, often too saturated for tractors or traditional crops, may be ideal for certain deep-rooted trees, shrubs, and specialty crops.



Why so much wet soil?

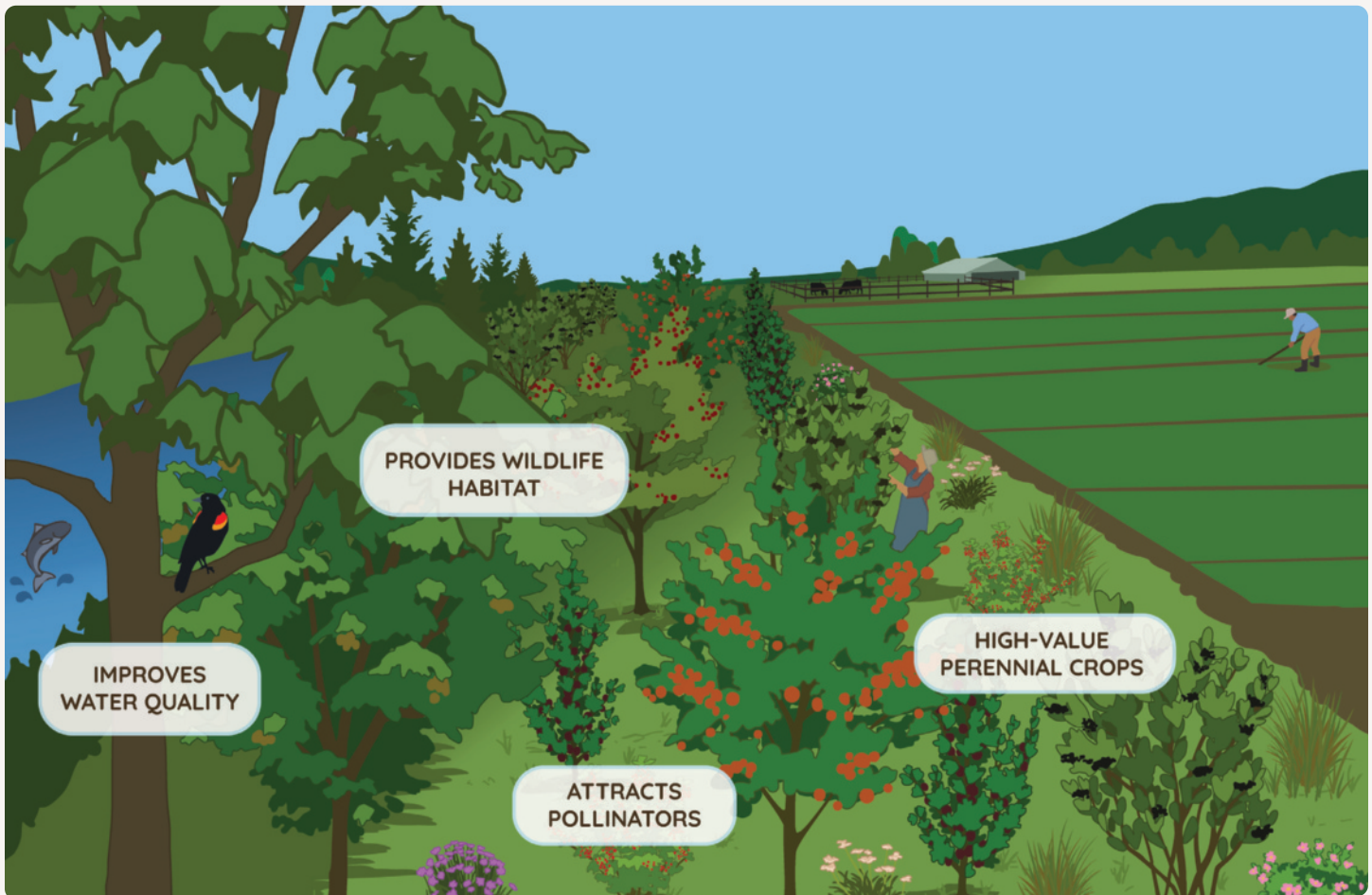
In the Pacific Northwest region, climate change is bringing more rain in shorter bursts, followed by hotter, drier summers. Urban growth adds to the problem. More pavement means more runoff, while forest loss removes natural water sponges.

Creating drainage by digging tiles or trenches to carry water off the land can be a solution, but with drier summers, draining spring moisture may leave fields parched later. Some farms also face outdated or failing drainage systems that are costly to fix. Wet Feet Farming takes a different approach: work with the water, not against it.

Wet Feet Farming can make soggy soils productive again with woody perennials and other specialty plants that thrive in wetter conditions. These systems can:

- Add new income streams with crops like aronia berries, cider apples, elderberries, and hazelnuts
- Boost pollinator and wildlife habitat
- Improve soil health, water retention, and drainage
- Increase farm resilience to climate extremes

BOUNTIFUL BUFFERS



Bountiful Buffers are harvestable riparian buffers, also called working buffers, that combine multiple agroforestry practices to achieve ecological benefit while also producing food or other valuable products. They can feature a rich mix of edible tree and shrub species that provide fruit, nuts, berries, and other products like herbal medicines or materials for crafts like basketmaking.



Bountiful Buffers are designed with a traditional, all native, riparian forest buffer zone immediately adjacent to the surface water or wetland that transitions into different zones of production using food forest, forest farming, or sometimes alley cropping agroforestry practices. This unique design and management of riparian forest buffers can create riparian buffer zones that are wider than a “no-touch” fully native planting. Bountiful Buffers allow landowners to plant and protect critical riparian buffers along waterways while also maintaining and perhaps increasing production and income potential.

Adding perennial trees and shrubs along water bodies can help filter contaminants, stabilize slopes, and reduce the chance of flooding and erosion by absorbing water and holding soil in place. Perennial trees and shrubs also create habitat for pollinators along with beneficial birds and insects that help manage pests. Leaf litter provides a natural soil amendment, and the diversity of plants supports a wide range of soil organisms that further improve soil fertility, reducing the need for fertilizer and pesticides.

Bountiful Buffers may be especially practical for farmers with existing orchards or u-pick operations, as they offer an opportunity to plant a diverse mix of edible species that complement existing operations. Additionally, by incorporating a variety of trees and shrubs that flower at different times, Bountiful Buffers can attract pollinators and beneficial insects (e.g., natural pest predators), improving growing conditions across the farm. These diverse fruit, nut, and berry species may also ripen at different times, allowing farmers to extend their growing season.

Livestock farmers may find a Bountiful Buffer especially beneficial if species are selected to provide a source of cut-and-carry tree fodder to reduce hay demand. Buffers also have a positive impact on herd health by reducing the incidence of waterborne diseases like campylobacter and cryptosporidium. This benefit is even greater when the buffer is protected by fencing that prevents livestock from entering the waterway and damaging vegetation. For farmers and land managers with drainage ditches on their property, planting buffers can reduce the quantity of sediment entering these ditches, decreasing how often dredging is needed.

PLANNING AN AGROFORESTRY SYSTEM

Before jumping into a new practice, it pays to plan carefully. Agroforestry practices like Wet Feet Farming and Bountiful Buffers can offer long-term benefits for waterlogged or marginal land, but it's not a one-size-fits-all solution. The key to success is matching the right system to the right site and making a plan to manage it well.

Start with a Site Assessment

Not all wet land is the same. Some areas flood only in spring, while others stay soggy year-round. A thorough assessment helps with decision about implementing Wet Feet Farming practices.

When integrating Bountiful Buffers, identify areas near streams, ditches, or wet zones on your property and consider compatibility with existing farm systems, such as orchards or grazing areas.

Who Can Help:

- **Local Conservation Districts** – free technical support, site visits, and possible funding programs.
- **WSU Extension Offices** – offer workshops, crop insights, and soil/ climate info.
- **Agroforestry Northwest** – certified agroforesters with regional expertise.

These professionals can help you choose suitable crops, access grants or cost-share programs, and avoid costly mistakes.



Key Planning Steps



1. Soil Assessment

Identify areas with:

- Compaction or erosion
- Standing water or ponding
- Slow drainage

Use flags or notes to track wet zones throughout the year. This will help decide what to plant, and where.

Recommended tools:

- **Web Soil Survey** – USDA tool to map and evaluate soil on your farm.
- **SoilWeb App** – mobile access to soils data in the field.
- **Soil tests** – check pH, organic matter, and nutrients. Ask your local conservation district for testing options.



2. Climate Assessment

Choosing the right crops means understanding both the current and changing climate.

Track:

- Changes in rainfall timing or volume
- Irrigation needs
- Freeze/frost patterns

Use WSU's AgWeatherNet to access climate data by location. Your observations, along with scientific data, will help you make better decisions.



3. Cost Assessment

Establishing an agroforestry system takes upfront investment, especially in the first few years. Plan for:

- Plants (trees, shrubs, cover crops)
- Protection (fencing, tubes, cages, raptor poles)
- Labor (site prep, planting, irrigation, weeding)
- Tools or equipment (e.g., pruning shears, irrigation systems)

Larger plants can bear fruit sooner but are costlier. Smaller plants are cheaper but more vulnerable to weeds and wildlife.

Pro tip: Source plants from local nurseries. They're often better adapted to regional conditions.

AGROFORESTRY DESIGN STEPS



Step 1: Choosing Crops

Start with **goals** and **site conditions**:

- What's growing there now?
- How wet is it? How long?
- Are there grazing animals?
- Are there plans to harvest for market, family use, or habitat value?

Common crops for wet ground include:

- Aronia (chokeberry)
- Cider apples (on crabapple rootstock)
- Hazelnuts
- Basketry willows
- Elderberries
- Pacific crabapple

Also think about crops for pollinators, wildlife, or soil improvement (like nitrogen-fixing species). Consider plants that serve multiple purposes: food, medicine, habitat, craft, or shade. For buffer areas, use native species wherever possible to ensure regional resilience and ecosystem fit.



Step 2: Build the System

Decide how crops will be layered and integrated. Many successful systems use a combination of:

- **Canopy trees** for fruit, nut, or habitat
- **Mid-layer shrubs** like aronia or willow
- **Low groundcover or forage** like grasses or clovers
- **Support plants** for pollinators or natural pest control

Also consider:

- **Seasonal workload** – Will harvests overlap?
- **Water needs** – Group similar crops together
- **Access** – Leave enough space for mowing, grazing, or harvest

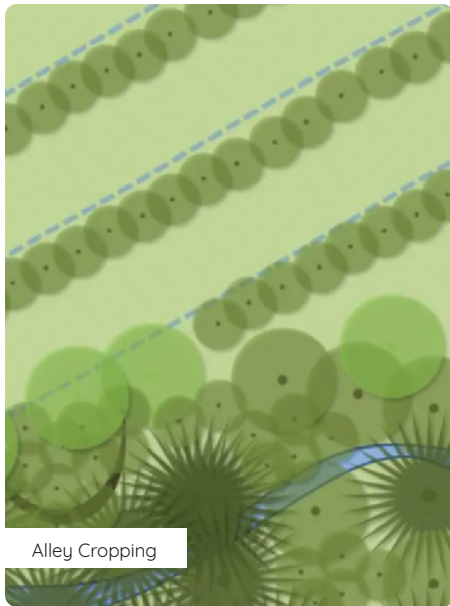


Step 3: Arrange for Efficiency

The planting layout affects how easy it is to manage. Think long-term: the system should get easier, not harder, as it matures.

Design tips:

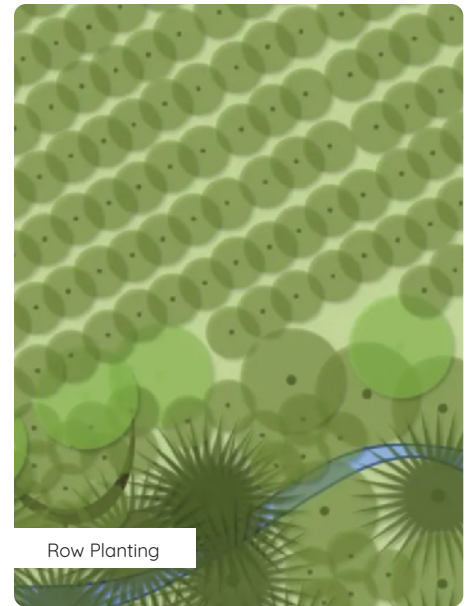
- Group plants by similar sun/water/soil needs
- Align rows with slope and drainage
- Plan for future equipment access
- Space plants to allow light and air flow



Alley Cropping



Food Forest



Row Planting

Sample Layouts for Different Goals

Goal	Example Layout
Alley Cropping	Wide alley cropping spacing with rows of perennials and wide alleys for grazing, annual, or shorter growing perennial crops
Food Forest	Food forest spacing with multiple canopy layers (high, mid, low)
Row Planting	Dense rows for perennial crops or U-pick design



Remember to plan for:

- Weed suppression early on
- Annual pruning or mulching
- Harvest, storage, and transport needs





Aronia



Aronia



Pacific Crabapple



Pacific Crabapple



THREE HIGH-VALUE PERENNIAL CROPS

There are many plants to choose from for agroforestry. This project explored three high-value perennial crops—Aronia, Pacific Crabapple (used for cider apple rootstock), and Willow—to help Pacific Northwest farmers improve productivity on wet or marginal land. These crops were selected for their ability to tolerate saturated soils, provide ecological benefits, and support emerging market opportunities.

Why Aronia, Pacific Crabapple, and Willow?

These crops were chosen for:

- Adaptability to wet soils
- Compatibility with perennial agroforestry systems
- Market potential for food, florals, crafts, and value-added goods

They also align with growing agritourism and direct-market opportunities in our region: U-pick, farm stands, value-added sales, food hubs, florists, and more.

PACIFIC CRABAPPLE (MALUS FUSCA)

A native tree well-suited for soggy areas, Pacific crabapple tolerates saturated soils and salt-spray drift, making it ideal as a hardy rootstock for grafting cider apple varieties.

Why Use Crabapple Rootstock?

- Enables cider apple production in wetter soils
- Supports unique, climate-adapted orchards
- Aligns with a growing regional cider market

Two of the participating farms grafted cider scion wood onto crabapple rootstock with success.



Planting Info

 Mature Size	15–30 ft tall, 25 ft wide
 Spacing	5–8 ft in-row, 15 ft between rows
 Sun	Full to partial
 Soils	Moist to saturated; tolerant of salt drift and light salinity

 pH	5.5–6.5
 Hardiness Zone	6–8
 Planting Window	Rainy season
 Harvest	August–October (4–6 years to first harvest)



Management Notes

- Grafting on native crabapple rootstock enables the growth of cider apples in less ideal soil conditions. However, wet conditions can be risky for an already disease-prone crop.
- Apples need cross-pollination, so select complementary cider apple varieties with matching bloom times.
- Support healthy graft union growth with early weeding, watering, and pruning.
- Understory plantings that support pollinators can improve fruit set.
- Cider apples don't need cosmetic perfection, making them more forgiving than dessert varieties.

Value

Despite being a more challenging perennial crop to grow, there is a strong retail and wholesale market for hard cider and apples. Cider apples can produce complex and full-bodied alcoholic beverages. Blending cider apple cultivars can provide ciders with a range of viscosity and mouth feels.

Entering the Market

- Establish multiple-year contracts with potential outlets once average production yields can be evaluated
- Profitability will depend on relationships with local cideries willing to pay for specialty cider apples

Explore Further

- Northwest Cider Association
- American Cider Association
- Tree Fruit Economics (WSU Extension)
- Organic pest and disease guides for Western WA apples

For direct resources, please visit the digital guide at betterground.org/wet-feet-farming.

ARONIA (ARONIA MELANOCARPA)

This hardy shrub is increasingly recognized as a “superfruit” for its health benefits and deep purple berries. Aronia thrives in a wide range of soils, including wet and compacted ground.

Why Aronia?

- Fast to produce (berries possible in year 1-2)
- Drought- and flood-tolerant
- Low-maintenance and deer-resistant when protected
- Fits well into agroforestry hedgerows and alley cropping systems

Planting Info

 Mature Size	3-6 ft tall, 2-6 ft wide
 Spacing	4-8 ft in-row, 10 ft between rows (leave space for harvesting)
 Sun	Full to partial
 Soils	Moist to saturated; salt-spray tolerant (not saline tolerant)

 pH	5.1-6.5
 Hardiness Zone	3-9
 Planting Window	Rainy season
 Harvest	August-September (some harvest in year one)





Maintenance Tips

- Protect young plants from deer and rodents with cages or plant guards.
- Mulch heavily to suppress grass and conserve moisture.
- Minimal pruning is required—every 4–5 years is usually sufficient.
- Self-fertile (no pollinator variety needed)
- Compatible with commercial blueberry harvesters

Value

Although aronia is not especially palatable fresh due to its astringent taste, value-added products like baked goods, salsas, jellies, jams, chews, juices, and wines can incorporate aronia for added health benefits. Its deep purple color can be used as a dye. Market opportunities include selling wholesale to value-added processors, or developing value-added products in-house.

Entering the Market

Pooling resources with other growers in the region to secure wholesale contracts may be another potential avenue. Explore information provided by the American Aronia Berry Association and North American Aronia Cooperative. Individual producers may be unlikely to be able to compete with processing cooperatives, but can seek out relationships with beverage companies interested in incorporating aronia into their products and pursue value-added producer grants and resources through organizations like Northwest Agriculture Business Center and United States Department of Agriculture.

Explore Further:

- American Aronia Berry Association
- North American Aronia Cooperative
- Northwest Wild Foods

WILLOW (*SALIX* spp.)

Willow is fast-growing, thrives in saturated soils, and is used for basketry, crafts, and floral arrangements. Several ornamental and basketry willow cultivars grow well in the Pacific Northwest.

Why Willow?

- Easy to propagate from cuttings
- Thrives in full sun and wet conditions
- Niche markets for floral, craft, and weaving uses
- Dried stems have long shelf life for decorative sales

Planting Info

 Mature Size	6–60 ft tall, 70 ft wide (depending on species and pruning)
 Spacing	1–2 ft in-row, 2–4 ft between rows
 Sun	Full to partial
 Soils	Moist to saturated; some species tolerate salt spray

 pH	5.5–8.5
 Hardiness Zone	2–8
 Planting Window	February–April
 Harvest	Winter months (2–4 years to marketable growth)





Maintenance Tips

- Propagate by planting 8–12” live stakes cut from one-year-old dormant stems
- Weed suppression and mulching are key in early years, especially for livestakes
- Coppice (cut to ground in winter) to encourage new, straight shoots

Value

Willow for decorative florals or baskets presents significant market opportunities, particularly if you are able to provide unique colors, bud, and stem growths. Woody cuts can be sold fresh, but dried arrangements have also increased in popularity in the cut-flower industry.

Entering the Market

There are basketry weavers guilds, such as the National Basketry Organization, that may provide opportunities to cultivate a market. The demand for cut flowers and additions to floral arrangements for retail florists has grown steadily.

Explore Further:

- National Basketry Organization
- Dunbar Gardens (local willow grower)
- Woody Floral case studies from Nebraska & Kentucky

Choosing Crops for Agroforestry Systems

There are many plants that work well in agroforestry systems. When selecting plants for any agroforestry system, use the site assessment as a guide. Consider climate, drainage, frost patterns, and topography.

What to Think About:



Growth Habit: How much space will this plant need at maturity?



Climate resilience: Are these species resilient in a changing climate? Can the system be designed to be flexible over time?



Root Structure: Do plants have tap roots, surface roots, rhizomatous roots, or mat-forming roots?



Market value: Is there an existing or emerging market for your crops?



Compatibility: Do plants complement each other in some way (fruit trees and pollinator-attracting flowers, for example)?



Local knowledge: Are there indigenous people, local farmers, technical staff, or others that have knowledge you can draw from?



Pest and disease resistance: Are selected varieties resistant to known pathogens or diseases in the region?

Marketing Resources

These organizations have resources and case studies on agroforestry and retail outlets. For a complete list of resources and direct links, please visit the digital guide at betterground.org/wet-feet-farming.

- U.S. Department of Agriculture
- Agroforestry Northwest
- Eat Local First
- Washington State Farmers Market Association
- Skagit Valley Food Cooperative
- Puget Sound Foodhub

PLANTING FOR AGROFORESTRY

Perennial plants need a different approach from traditional crops.

Once site assessments are completed, crops are selected and sourced, and planting layout is developed, it is time to think about planting.

Timing

Plant trees and shrubs during dormancy, typically late November to early March. Prepare the site in the fall (September–October) and avoid disturbing wet soils, especially before flooding or ponding events.



Site Preparation Options

Choosing the right prep method depends on your site, design, and goals. Below are approaches suited for Wet Feet Farming:



Direct Planting

In some systems like food forests, you may plant directly into grass. Over time, trees and shrubs will shade out the grass. Grass also offers erosion control and weed suppression.

Exception: Invasive grasses like reed canary grass will outcompete young plants and should be removed first.



Tilling

If you're planting in rows or islands, tilling helps break up sod and reduce competition.

- Till 6 ft wide strips for each row to create a 3-ft weed-free radius around each plant.
- Reseed with clover or mulch heavily to suppress weeds like bindweed and thistle.
- Use tillers, brush hogs, or brush cutters to remove unwanted woody vegetation.
- Avoid tilling after planting.



No-Till Methods

No-till protects soil structure, supports soil life, and can boost yields by 5–10% over time! Though more labor-intensive upfront, no-till systems build resilience and sustainability.

No-till strategies include:

- **Tarpping:** Use biodegradable tarps during fallow periods to smother weeds. Remove before planting.
- **Broadforking:** Loosens soil without disturbing structure. Ideal for compacted areas.
- **Mulching:** Straw or wood chips suppress weeds, conserve water, and insulate soil.
- **Composting:** Boosts soil fertility and structure.
- **Biochar:** Enhances nutrient retention and water-holding capacity.



Tip: Dig out woody invasive species early, or mow them repeatedly before they fruit to deplete energy reserves.





Careful Herbicide Use

In persistent weed infestations like bindweed, herbicides may help. However:

- Choose the least toxic option.
- Apply only when pollinators are inactive.
- Follow all safety, certification, and legal requirements.
- Delay planting if herbicide residues could harm young plants.



Recommended Plant Spacing

Spacing varies based on species, farm goals, and system design. Here are general guidelines:

- Trees / Large Shrubs: 10–12 ft apart
- Small to Medium Shrubs: 4–6 ft apart
- Groundcovers / Herbaceous plants: Minimum 2 ft from other plants

Adjust spacing to accommodate equipment, harvest access, or light needs. Check technical guides or nurseries for crop-specific recommendations.

Grafting Notes

If you're using grafted plants, particularly with cider apples:

- Use proper grafting techniques like whip-and-tongue grafts
- Watch the graft union for signs of failure
- Remove any suckers growing from rootstock with sanitized pruning tools



How to Plant Trees and Shrubs

Proper planting technique is essential to give your plants a strong start. Poor planting often leads to root damage and plant failure. Follow these steps:

1. Clear a 2-ft circle of grass and weeds from the planting site.
2. Dig a wide hole at least wide enough to fully spread roots. Roots grow out and down!
3. Mound soil in the center of the hole.
4. Drape roots over the mound, making sure they hang down naturally and are not turned up or crowded.
5. Set plant depth so the root-stem junction is level with the ground.
6. Backfill and gently pack the soil.
7. Mulch the planting ring, leaving a space around the stem.
8. Water deeply after planting to settle the soil and remove air pockets.

The first two weeks are critical. Keep plants well watered and protected from wind or sun exposure if needed. Additional planting guides can be found on Snohomish Conservation District's Plant Sale website at theplantsale.org.

LONG-TERM MAINTENANCE

Establishing an agroforestry system takes time and attention. Plants in a Wet Feet Farming system typically need 3-5 years to become fully established. Consistent care during this period helps ensure long-term productivity and ecological benefits.

Mulching

Mulch helps suppress weeds, conserve soil moisture, and buffer temperature extremes around plant roots. Use organic materials such as straw or wood chips. Mulch should be refreshed annually and kept away from direct contact with stems to avoid rot.

Irrigation

Even in wet areas, soils may dry out during summer. Young plants are especially vulnerable and often need supplemental watering in the first few years. Check your local water rights before installing irrigation, and plan systems that suit your budget and landscape.

Plant Protection

Protect your investment by guarding against browsing and trampling. Use tree tubes, stakes, or cages to support young plants. In areas with heavy deer pressure, consider fencing off entire zones using t-posts and wildlife netting.

Pest Management

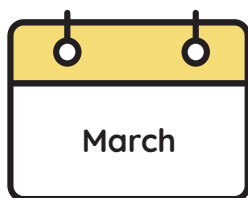
Each crop has its own pest risks. Choose species with known resistance to regional pests when possible. Implement an Integrated Pest Management (IPM) strategy that combines:

- Monitoring for signs of pests or disease
- Setting thresholds for action
- Using physical, cultural, or chemical controls as needed

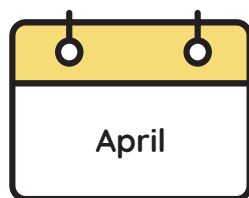


Maintenance Schedule

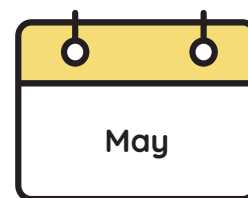
Follow this guide for the first three to five years of establishment. Make adjustments as needed for the specific needs of your installation.



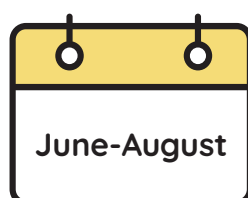
- Inspect for pests (fungus, insects, mold)
- Remove or replace dead or diseased plants
- Test soils if signs of nutrient deficiencies appear
- Check and repair plant protectors
- Weed around each plant



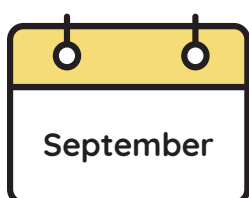
- Weed again as needed
- Apply mulch to suppress weeds and conserve moisture
- Fertilize according to soil test results



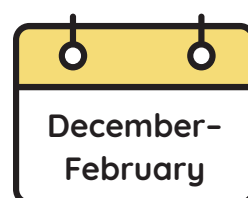
- Set up irrigation systems
- Develop and adjust watering schedule



- Water and weed regularly
- Monitor for pests



- Continue watering if needed
- Weed and scout for pests
- Optional late-season soil test



- Review past year's notes and adapt plan
- Budget time and money for harvest, storage, or sales



Tip: Keep a simple logbook of inputs, yields, pests, and plant health to track what's working over time.

LOCAL RESEARCH & RESOURCES

Project partners are studying Bountiful Buffers across northwest Washington to understand their role in soil and water health. Results will be shared in late 2025 on the Snohomish Conservation District Agroforestry and BetterGround.org websites.

Interested in planting your own? Contact your local Conservation District to get started with:

- Site planning
- Species selection
- Cost-share or technical assistance

Additional resources:

- **Better Ground website** or **theplantsale.org** for plant lists and planning tools
- **Snohomish, Skagit, and Whidbey Island Conservation Districts** for ongoing Bountiful Buffer and Wet Feet Farming trials

Find Local Support

- Find your local Conservation District at **scc.wa.gov/what-are-conservation-districts**
- Find your local WA State University Extension office at **cahnrs.wsu.edu/about/locations/**
- Find your local Natural Resource Conservation Service office at **nrcs.usda.gov/getting-assistance/conservation-technical-assistance**
- Visit Agroforestry Northwest at **agroforestrynw.com**

