Practical Agroforestry for Working Farms:
Perennial Crops for Production & Conservation

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The Center for Agroforestry
University of Missouri
A Global Center for Agroforestry, Entrepreneurship and the Environment
School of Natural Resources
College of Agriculture, Food and Natural Resources
Land Acknowledgment

Missouria (Nutachi)
Osage (Wha-zha-zhe, Niukonska)
Otoe (Chiwere), Illini (Inoka)

Ancestors & Descendants of Dhegiha Siouan tribes of the Mississippian era and post-colonial forced migrations

https://www.omtribe.org/ Otoe-Missouria Tribe 2019
https://www.osagenation-nsn.gov/ Osage Nation 2019
Land Acknowledgment

Illinois: Peoria
- Kiikaapoi (Kickapoo)
- Očeti Šakówiŋ (Sioux)
- Piankashaw
- Wea
- Miami
- Mascoutin
- Odawa
- Sauk
- Mesquaki
- Bodéwadmiakiwen (Potawatomi)
- Ojibwe
- Chickasha
- Ho-Chunk (Winnebago)

And other indigenous peoples, their ancestors, and descendants

La Crosse, Wisconsin:
- Sauk and Meskwaki
- Ho-Chunk (Winnebago)
- Očeti Šakówiŋ (Sioux)

And other indigenous peoples, their ancestors, and descendants

https://ho-chunknation.com/
Temperate Agroforestry in a Nutshell

- Community food forests
- Silvopasture
- Windbreaks
- Riparian Buffers
- Alley Cropping
- Forest Farming

AND... infinite creative ways to integrate perennial crops to fit your farm/life!

USDA National Agroforestry Center
• Intentional
  Systems designed based on site conditions, marketable products, and landowner objectives

• Integrated
  Integrates TREES and/or SHRUBS with CROPS and/or LIVESTOCK

• Intensive
  Managed with great care for tree-crop/tree-livestock productivity and health

• Interactions
  Above and belowground interactions between plants and animals must be considered
Agroforestry system

\[
\text{Net benefit} = 2T + (Y_2 - 2Y_1) - 2D
\]

where:
- \( T \) = value of tree products (inc. above and below C stocks, \( N_2 \) fixation)
- \( Y_1 \) = yield loss
- \( Y_2 \) = yield gain
- \( D \) = value of displaced crop

reduction of negative effects through silvicultural management

Yield of control (monocropping systems)

Schematic diagram of tree-crop interaction in hedgerow intercropping system
## Crop Windbreaks: Weighted Average Crop Yield Increase

<table>
<thead>
<tr>
<th>Crop</th>
<th>Yield Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>12%</td>
</tr>
<tr>
<td>Soybeans</td>
<td>13%</td>
</tr>
<tr>
<td>Barley</td>
<td>25%</td>
</tr>
<tr>
<td>Winter Wheat</td>
<td>23%</td>
</tr>
<tr>
<td>Hay</td>
<td>20%</td>
</tr>
<tr>
<td>Spring Wheat</td>
<td>8%</td>
</tr>
</tbody>
</table>

### Schematic diagram of tree-crop interaction in hedgerow intercropping system

- **Tree-crop nutrient transfer through pruning and roots and nodules turnover**
- **Leaching of nutrients to lower depths**
  - 0 - 100 cm depth
  - > 100 cm depth

- **Uptake from safety-net zone** (nutrient pumping below root zone of annual crops)
- **Safety-net zone**
  - + = fertility, micro-climate, erosion control, nutrient-pumping, safety-net, tree biomass and soil C stocks
  - - = competition: light, water nutrient
9 LAYERS IN A FOREST GARDEN

**SMALL TREES**
10-30' HEIGHT
- Plum, Apple, Apricot, Pear, Quince, Pawpaw, Hawthorn, Medlar, Chinquapin Chestnut, Jujube, Some Juneberries, Mountain Ash, Asian Persimmon, etc.

**ROOTS/TUBERS**
BELOW SOIL SURFACE
- Sunchookes, Groundnuts, Potatoes, Scorzonera, Licorice, Horseradish, Salsify, etc.

**SHRUBS**
4-15' HEIGHT
- Currants, Most Hazelnuts, Viburnums, Seaberry, Aronia, Gooseberry, Rose, Elderberry, Some Juneberries, Eleagnus, Bush Cherries, Quince, etc.

**FORBS/HERBS**
1-6' HEIGHT
- Asparagus, Perennial Greens, Brambles, Nettles, Mints, Indigos, Most Grasses, Daylilies, Rhubarb, etc.

**GROUNDCOVERS**
1' OR LESS HEIGHT
- Strawberries, Violets, Clover, Mints, Thymes, etc.

**Fungi**
UNDERGROUND, OR ON MUSHROOM LOGS IN SHADE

**VINES**
CLIMBING PLANTS
- Groundnuts, Hops, Grapes, Hardy Kiwi, Mountain Yam, Schisandra, Squash, Maypop, Melons, Pole Beans, etc.

**MEDIUM-TALL TREES**
30-50' HEIGHT
- Euro/Asian Chestnut, English Walnut, Wild Pear, Sassafrass, Heartnut

**CANOPY/TALL TREES**
50-100+ FT. HEIGHT
- Most Oaks, Hickory, Pecan, Black Walnut, American Persimmon, American Chestnut, Hackberry, Most Locusts, etc.

Small yards may not have the room for some of these larger species, or you could prune for height control. Taller species should be placed toward the North, shorter to South, for optimal partitioning of sunlight.

**NITROGEN-FIXERS**
CAN GROW IN ANY LAYER—IMPORTANT TO OVERALL SYSTEM
- Locust Trees, Kentucky Coffee tree, Alders, Autumnberry, Seaberry, Buffaloberry, Indigo, Leadplant, Licorice, Clovers, Peas, Beans, Groundnut, Acacia, etc.

**SUN-Loving/Shorter Species to South**

**SHADE-Tolerant Species Below**

**ROOTS**

**TUBERS**

**FUNGI**

**FORBS**

**SHRUBS**

**FORBS**

**GROUNDCOVER**

**FORBS**

**SHRUBS**

**GROUNDCOVER**

**SHRUB**

**SHRUB**

**GROUNDCOVER**

**FORBS**

**SHRUB**

**SHRUB**
Willows and other spring flowering woody species for early season pollen/nectar and streambank stabilization

Pollinator Habitat Refuge
- Provide pollen and nectar
- Provide nesting habitat

Filter and Drift Barrier
- Reduce wind speed and movement of pesticides
- Capture seed dust and spray drift with plants that do not provide food or nesting habitat for pollinators
- Filter contaminated field runoff and shallow groundwater

Plant species that do not provide pollinator resources

Dust plume or spray drift

USDA National Agroforestry Center 2018
Planning for agroforestry

- Know thy site: (hi)story, your connection, biophysical..
- What are your objectives (and dreams)?
- Will your dreams fit your labor and lifestyle preferences?
- Will you be able to sustain a livelihood this way?
  - Who needs what you have to offer?
  - How do they value it?
- Write a plan for the next 20 years.
- Continue to adapt, listen, and grow.
Observe, then interact

Analysis with Zones and Sectors

- wind
- sun
- noise
- odor
- storms
- soils
- land use
- water
- animals
- Indicators
- topography
Know Your Site

Other Considerations

- Previous & current management
  - What was grown, where, and how
- Climate
  - Rainfall
  - Hardiness zone
  - Frost pockets
- Slope & Aspect (which direction slope faces)
- Drainage
- Soil Testing
  - PH (most fruit & nuts trees prefer 6.0-6.5)
- Surrounding areas & their use
Know Your Site

Drummer silty clay loam, 0 to 2 percent slopes (152A)

▲ Map Unit Composition
94% - Drummer
Geomorphic Position: outwash plains / Toeslope
3% - Haraster
Geomorphic Position: depressions / Toeslope
3% - Peotone
Geomorphic Position: depressions / Toeslope

▲ Map Unit Data
Map Unit Key: 242963
Type: Conservation
Farmland Class: Prime farmland if drained
Available Water Storage (0-100cm): 17.39 cm
Flood Frequency (Dominant Condition): None
Flood Frequency (Maximum): None
Ponding Frequency: 100
Drainage Class (Dominant Condition): Poorly drained
Drainage Class (Wettest Component): Poorly drained
Proportion of Hydric Soils: 100%
Min. Water Table Depth (Annual): 15 cm
Min. Water Table Depth (April-June): 15 cm
Min. Bedrock Depth: n/a

▲ Survey Metadata

SoilWeb
Know Your Site

USGS Topographic Maps
Know Your Site

Meteoblue Climate Data
From the ground up: managing above & below ground interactions

Keep in mind that this is an integrated system

- Select tree-crop species that yield during different times of year to account for demands on your labor and time
- Design your farm layout to accommodate your machinery
From the ground up: managing above & below ground interactions

Be **intentional** with species selection:
aim for tree-crop COMPANIONS

- Deeper **tap rooted trees** reduce lateral root competition
- Trees with **light shade** (pecan, locust, walnut..) limit light competition
- Use a wide spacing with **shade tolerant (C3)** understory
From the ground up: managing above & below ground interactions

Consider **intensive** techniques to manage for tree-crop-ecosystem **interactions**

- **Root prune** to mitigate lateral root competition while the tree is young but established, during dormant season
- Prune above-ground limbs to **increase light** to the understory crop if needed
- **Protect** trees and crops from wildlife predation
- **Observe** changes over time and adapt your management accordingly
EarthDance Organic Farm School  Ferguson, MO

Alley cropping annual production with perennials

Organic vegetables grown between rows of fruit tree, perennials herbs, and native pollinator plants
Planning Resources

• USDA Natural Resources Conservation Service
  • Web Soil Survey: [https://websoilsurvey.sc.egov.usda.gov/](https://websoilsurvey.sc.egov.usda.gov/)

• MU Center for Agroforestry: [www.centerforagroforestry.org](http://www.centerforagroforestry.org)

• Savanna Institute: [www.savannainstitute.org](http://www.savannainstitute.org)
  • *Planting Tree Crops*, Nutshell Webinars, Persistence & Pioneer videos

• USDA National Agroforestry Center: [www.fs.usda.gov/nac](http://www.fs.usda.gov/nac)
  • Technical guides, Resource library

• USDA Plants Database: [https://plants.sc.egov.usda.gov/](https://plants.sc.egov.usda.gov/)
NRCS EQIP Supporting Practices

• Alley Cropping - 311
• Access Control – 472
• Conservation Cover – 327
• Conservation Crop Rotation – 328
• Contour Buffer Strips – 332
• Cover Crop – 340
• Critical Area Planting – 342
• Fence – 382
• Filter Strip – 393
• Forage & Biomass Planting - 512
• Forage & Biomass Harvest Mngt – 511
• Forest Stand Improvement – 666
• Hedgerow Planting – 422
• Herbaceous Weed Control – 315

• Irrigation (micro) – 441
• Mulching – 484
• Prescribed Burning - 338
• Prescribed Grazing – 528
• Riparian Forest Buffer - 391
• Tree/Shrub Establishment – 612
• Tree/Shrub Pruning – 660
• Tree/Shrub Site Preparation – 490
• Upland Wildlife Habitat Mngt – 645
• Silvopasture Establishment - 381
• Windbreak/Shelterbelt Establishment - 380

+ Technical and Financial Assistance
Hazelnut
*Corylus avellana* (European), *Corylus americana* (American)

**Requirements:**
- **DRAINAGE:** Moderate to well drained
- **PH:** 5.5-7.5
- **LIGHT:** Full (partial shade tolerated)
- **ZONES:** 3-9

**Plant Selection:**
American x European hybrids with larger nut size, Eastern Filbert Blight resistance, and selected grow habit are at early cultivation stages. Cultivars that have successfully undergone micropropagation are now being released by Rutgers University as well as the Upper Midwest Hazelnut Development Initiative.

**Spacing:**
- **IN-ROW SPACING (feet):** 16-20 (European); 3-5 (hybrid)
- **BETWEEN ROW SPACING (feet):** 18-20 (European); 10-15 (hybrid)

**Timing**
- **YEARS TO PARTIAL/FULL BEARING:** 4-5 partial, 11-12 full (European); 3-6 partial, 8 full (hybrid)
- **HARVEST SEASON:** August-October, zone dependent
- **HARVEST HRS/ACRE:** 211 (hand); 1-2 (machine)
Chinese Chestnut  *Castanea mollissima*

**Requirements:**
- **DRAINAGE:** Well drained
- **PH:** 5.5 - 6.5
- **LIGHT:** Full
- **ZONES:** 6a - 8, tolerant to -20 F

**Plant Selection:**
- **GRAFTED:** Predictable harvest timing and known nut quality, but expensive.
- **SEEDLING** or **STRATIFIED SEED:** diy, lower initial cost, slower to yield

Seedlings and stratified seed can be grafted in yr 2.

**Spacing & Care:**
- **IN ROW & BETWEEN ROW SPACING (feet):** 30 x 30, then thin to 42 x 42 when trees become crowded (50 trees/acre → 26 trees/acre)
- Susceptible to sun scald (paint/wrap/tube trunk), protect from rodents & deer, mulch/covers around base, stake and prune annually

**Timing:**
- **YEARS TO PARTIAL/FULL BEARING:** 12-15 (seedling) / 6-9 (grafted)
- **HARVEST SEASON:** Sept- Oct
- **HARVEST HRS/ACRE:** 70 (hand); 5-43 (mechanical -- FACMA $13,000)
  >10 acres, cost effective to consider mechanical options / u-pick!
  40-60#/tree at 15yrs
Northern Pecan  
*Carya illinoinensis*

**Requirements:**
DRAINAGE: Moderate to well drained, prefer wet low sites  
PH: 6-7.5  
LIGHT: Full sun  
ZONES: 6-9

**Plant Selection:**
Pecan plantings can be established by grafting onto seedlings planted 2-3 years prior, or planting grafted trees.  
If warm season is too short for pecan, consider a hican (pecan x hickory)  
Ideal for silvopasture, companion plantings (light shade)  
Cultivars: Kanza, Pawnee, Lakota, Colby, Peruque, others

**Spacing & care:**
At least 30’ between trees and rows.  
mulch/ flame/ cover 5-ft area at base is critical for annual tree growth

**Timing**
YEARS TO PARTIAL/FULL BEARING: 5-7 (grafted), 20-25 full  
HARVEST SEASON: September-November  
HARVEST HRS/ACRE: 2-6.5, mechanical: shaker with tarps/ nut wizard or harvester (Savage/ pull behind/ push $350 - $15,000)
Aronia *Aronia melanocarpa*

**Requirements:**
DRAINAGE: Well-drained soils preferred, but can tolerate a range of soil types and conditions  
PH: 5.0-7.0  
LIGHT: Full  
ZONES: 3-9

**Plant Selection:**
PROPAGATION: Can be propagated by seed, cuttings, micropropagation, or division of root suckers.  
VARIETIES: Cultivars grown for berry and juice production include ‘Viking’ and ‘Nero’.

**Spacing:**
IN-ROW SPACING (feet): 3-4 ft  
BETWEEN ROW SPACING (feet): 12-14 ft

**Timing**
YEARS TO PARTIAL/FULL BEARING: 3-5 years  
HARVEST SEASON: August-September  
HARVEST HRS/ACRE: Hand- 700hrs/acre; Machine- 65hrs/acre
American Elderberry *Sambucus canadensis*

**Requirements:**
DRAINAGE: Moderate to well drained  
PH: 5.5-6.5  
LIGHT: Full to partial  
ZONES: 3-9

**Plant Selection:**
North American cultivars developed from wild plants: easy to propagate vegetatively from cuttings; multiple cultivars required  
Cultivar selections: *Adams, Bob Gordon, Ranch, Wyldewood, Pocahontas*

**Spacing & care:**
4ft between plants, 10-12 ft between rows  
prune at base in dormant season after year 2  
consider flower harvest

**Timing**
YEARS TO PARTIAL/FULL BEARING: 2 partial; 3 full  
HARVEST SEASON: June-July for flowers; July-September for fruit  
HARVEST HRS/ACRE: 163-650 (hand)
**Black Currant** *Ribes spp.*

**Requirements:**
DRAINAGE: Currants are very adaptable, but do not tolerate standing water or heavy clay soils
PH: 5.5-6.5
LIGHT: Full sun to partial shade
ZONES: 3-8 (although some varieties hardy to 2)

**Plant Selection:**
Newer varieties show resistance to White Pine Blister Rust while retaining good quality and high yields (e.g. ‘Titania’, ‘Blackcomb’, ‘Cheakamus’, ‘Stikine’). Although the federal ban has been lifted, some states still have laws on the books that may or may not be enforced. Currants are easily propagated by layering or cuttings

**Spacing:**
IN-ROW SPACING (feet): 2-3 feet
BETWEEN ROW SPACING (feet): 12-14 feet

**Timing**
YEARS TO PARTIAL/FULL BEARING: 3-5 years
HARVEST SEASON: June-August
HARVEST HRS/ACRE: 770 (hand), 12-65 hours (mechanical)
Pawpaw  *Asimina triloba*

**Requirements:**
- **DRAINAGE:** Moderate to well drained
- **PH:** 5.5-7.0
- **LIGHT:** Partial shade to full sun
- **ZONES:** 5-8, warmer microclimates

**Plant Selection:**
Can be propagated by seed, vegetative, or clonal propagation.
Seedlings are not identical to parent tree, fruit quality can be unpredictable.
Cultivars yield more consistent, quality fruit. 50lbs + per tree in full sun at 6yrs
Wild pawpaws are often single genetic source, high shade = low yield
Cultivars: *Susquehanna, Shannendoah, Mango, Sunflower, PA Golden*, others

**Spacing & care:**
- 8-15 ft between trees and rows
- Solarize/ mulch/ flame weed at base

**Timing**
- **YEARS TO PARTIAL/FULL BEARING:** 3 partial, 5-8 full
- **HARVEST SEASON:** August-October
- **HARVEST HRS/ACRE:** 250 (hand) + processing // u-pick
harvest timing is critical; fruit spoils quickly if left unharvested/dropped
attractive to wildlife (and humans)
Saskatoon, Juneberry, Serviceberry *Amelanchier spp.*

**Requirements:**
DRAINAGE: Moderate to well drained
PH: 6.0-8.0
LIGHT: Full
ZONES: 2-5

**Plant Selection:**
varieties tested in the Midwest.

**Spacing:**
IN-ROW SPACING (feet): 3-5 ft
BETWEEN ROW SPACING (feet): 12-16ft for hand harvest; 17-20ft for mechanical harvest

**Timing**
YEARS TO PARTIAL/FULL BEARING: 3 years
HARVEST SEASON: June-August
HARVEST HRS/ACRE: 300-480 (hand), 12-65 hours (mechanical)
Herbaceous edible perennials (as groundcover/understory)

**Native**
- Goldenglow *Rudbeckia laciniata*
- Wild leeks (ramps) *Allium tricoccum*
- Jerusalem artichoke *Helianthus tuberosus*
- Common milkweed *Asclepias syriaca*
- Chickweed *Stellaria media*
- Chicory *Cichorium intybus*
- Stinging nettles *Urtica dioica*

**Non-native/naturalized**
- Asparagus
- Rhubarb
- Strawberries, other berries
- Walking onions *Allium x proliferum*
- Perpetual spinach *Beta vulgaris*
- Lambs quarters *Chenopodium album*
- Purslane *Portulaca oleracea*
Medicinal and Decorative Forest-Grown Botanicals

AT RISK

• *Bloodroot (Sanguinaria canadensis)
• Trillium (Trillium spp.)
• *False unicorn root (Chamaelirium luteum)
• *American Ginseng (Panax quiquefolius)
• *Goldenseal (Hydrastis canadensis)
• *Blue cohosh (Actaea racemosa L.)
• *Black cohosh (Caulophyllum thalictroides)
• Slippery elm (Ulmus rubra)

“TO WATCH”

• Maidenhair fern (Adiantum pendentum)
• Mayapple (Podophyllum peltatum)
• *Ramps (Allium tricoccum)
• *Stoneroot (Collinsonia canadensis)
• Wild ginger (Asarum canadense)
• Trout lily (Erythronium americanum)
• Stinging nettles (Urtica dioica)
• Black walnut (Juglans nigra)

not yet listed

• * may be Forest-Grown verified
Edible and Medicinal Mushrooms

- Blewit *(Clitocybe nuda/sordida)*
- Oyster *(Pleurotus ostreatus)*
- Wine cap *(Stropharia rugosa annulata)*
- Shiitake *(Castanopsis cuspidata)*
- Lion’s mane (“combs tooth” / *Hericium spp.*)
- Maitake (“hen of the woods” / *Grifola frondosa)*
- Reishi (“Ling Zhi” / *Ganoderma lucidum*)
- Nameko *(Pholiota microspora)*
- Wildcrafted: e.g. morels, chanterelles

Resources:
- Field and Forest (supplier, guides) [www.FieldForest.net](http://www.FieldForest.net)
- *Radical Mycology* by Peter McCoy
- *Organic Mushroom Farming and Mycoremediation* by Tradd Cotter
Forest-Grown Mushrooms (3 ways)

STACK

BED

DRILL & FILL
Plant Material Resources

- Route 9 Cooperative, OH  
  https://route9cooperative.com/
- Red Fern Farm, IA
  www.redfernfarm.com
- Forrest Keeling, MO  
  https://www.fknursery.com/
- Honeyberry USA, MN  
  http://www.honeyberryusa.com/
- Ave Maria Acres, NE  
  https://www.avemariaacres.com/
- Burnt Ridge Nursery & Orchards, WA  
  https://www.burntridgenursery.com/
- Oikos Tree Crops, MI  
  https://oikostreecrops.com/
- Richters Herbs, Canada (seeds only)  
  https://www.richters.com/
- Raintree Nursery, WA  
  https://raintreenursery.com/
- OneGreenWorld, OR  
  https://onegreenworld.com/
- Perfect Circle Farm, VT  
  https://www.perfectcircle.farm/
- Gitmo Nut Nursery, Canada  
  https://www.grimonut.com/
- Brambleberry Permaculture, IN  
  https://www.brambleberrypermaculture.com/
- Cold Stream Farm, MI  
  https://www.coldstreamfarm.net/
- Twisted Tree Farm, NY  
  http://www.twisted-tree.net/
- England's Orchard & Nursery, KY  
  http://www.nuttrees.net/
Marketing opportunities

- Know your markets & how they fit into your farm & lifestyle
- Who is already in the marketplace? How can you fit in with a new niche or support an already established market?
- Market options for perennial crops
  - Farmers markets
  - Community Supported Agriculture: your program or someone else's
  - U-Pick
  - Small, specialty, or on-farm retail
  - Online sales
  - Wholesale for processing, medicine, or other production
  - Marketing, distribution, and/or processing co-operatives
  - The new & innovative!
Adding Value to Your Harvest

• Share your STORY
Regional/ local, character, passion!
Direct to chefs/ restaurants, with a message

• Create desirable products
Jams/jellies, teas, juices, mixes, dried/ frozen, pulp, prepared foods, sauces, potted plants/ plant starts, mushroom logs...

• Processing: cost/benefit
Time and labor demand
Equipment and storage facilities (food hub/ coop?)
Is there a market?? → education

• Find your niche, love your niche
Agritourism: Education and Experience

- Workshops/demonstrations
- Forest walks/Healing spaces
- Air BnB bonus
- Artist residencies
- Weekend festivals
- Green burials
  - [http://www.woodlanders.com/episodes](http://www.woodlanders.com/episodes)

Shinrin-yoku:
The Japanese Way of Forest Bathing for Health and Relaxation
Professor Yoshifumi Miyazaki
Financial Planning Tools

• MU Center for Agroforestry:
  www.centerforagroforestry.org

• Financial Decision Support Tools:
  Chestnut, Elderberry, Black Walnut

• Market analysis and budgeting guides

• USDA National Agroforestry Center:
  www.fs.usda.gov/nac

• Non-Timber Forest Product Calculator

• Center for Integrated Agriculture Systems
  www.veggiecompass.com

• Fruit and Nut Compass (coming soon!)
Tree Crops Research & Production Guides

- Jensen, Jeff (2014). Agroforestry on the Farm: Aronia Berry at Winding Creek, Belmond Iowa. https://lib.dr.iastate.edu/leopold_pubspapers/14/
- University of Maine Extension (n.d.). Culture of Aronia for Fruit Production. https://extension.umaine.edu/agriculture/aronia/culture/
Savanna Institute Online Resources

- Planning & Establishment
- Infosheets & Infographics
- Long-term lease information
- Nutshell webinars & Farm Tours

Perennial Pathways

PLANTING TREE CROPS
DESIGNING & INSTALLING FARM-SCALE EDIBLE AGROFORESTRY

http://www.savannainstitute.org/resources.html
University of Missouri Center for Agroforestry

- Agroforestry Academy: July 26-31, 2020
  - scholarships available for trainers, veterans, Native Americans
- Research-based technical guides
- The Agroforestry Podcast
- Missouri Chestnut Roast: Oct. 6, 2020
- The Agroforestry Symposium:
  - Traditional Ecological Knowledge February 4-5, 2021
- Agroforestry in Action E-news and quarterly Green Horizons

www.CenterForAgroforestry.org

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**What is the Agroforestry Academy?**

A week-long training that includes integrated classroom workshops, multiple on-farm visits, hands-on demonstrations and content integration into practical on-farm agroforestry planning and design to advance adoption of agroforestry as a cornerstone of productive land use.

**Tell me more**

Agroforestry is a land management approach that provides opportunities to combine productivity and profitability with environmental stewardship, resulting in healthy and sustainable agricultural systems that can be passed on to future generations.

**Who will Benefit?**

- Educators (natural resource professionals, extension agents...)
- Farmers, including beginning and military veteran farmers.

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**REGISTRATION**

**FULL REGISTRATION:**

$1,000/person (includes lodging, food, local travel and all training materials)

Scholarships available for Veteran farmers
Please register by May 29, 2020

**HOW TO REGISTER?** Please submit application.

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**Training Manual for Applied Agroforestry Practices**

2015 Edition

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**Agroforestry in Action**

Propagating Pecan and Black Walnut in Missouri

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**The Agroforestry Podcast**
Practical Agroforestry for Working Farms:
Perennial Crops for Production & Conservation

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