

AGROFORESTRY & CROP SUITABILITY TOOL RESOURCE LIST

Below you will find a list of foundational and key resources, including tools, papers, books, podcasts, videos, webinars, guides, courses, lists, resource libraries, and repositories that will aid in your journey into and through putting trees on farms on purpose, or what we call agroforestry.

These resources are grouped according to where they are found online.

FIRST, THREE KEY RESOURCES TO ADVANCE IN YOUR AGROFORESTRY JOURNEY

- [The Future Projected WI Crop Suitability Tool \(v1.0\)](#) - Clean Wisconsin and Savanna Institute
 - This online, interactive tool models the expected climate impacts on a given crop throughout the year using two different climate emission scenarios developed by the International Panel on Climate Change (RCP 4.5 and RCP 8.5) and during key months of crop development (e.g. seed stratification, germination, vegetative growth, budding, flowering, fruiting, harvesting, etc.), to inform whether a given area is ideal, suitable or unsuitable for long-term production in Wisconsin.
 - This tool integrates:
 - Historical climate data (1990-2020)
 - Average minimum and maximum temperature
 - Average annual precipitation
 - Projected climate data for 2030 and 2050
 - Average projected minimum and maximum temperature and precipitation (RCP 4.5 - moderate emissions scenario)
 - Average projected minimum and maximum temperature and precipitation (RCP 8.5 - high emissions scenario)
 - Crop-specific growing requirements, including:
 - Local soil characteristics (soil texture, depth, pH, and drainage class)
 - Growing degree days
 - Minimum and maximum temperature tolerance by crop
 - Maximum precipitation tolerance by crop
 - *NOTE: Extreme climate and precipitation data is not included due to limitations in data availability and project scope. Minimum precipitation criteria is not included in crop suitability analyses due to inconsistent availability of this data across all crops analyzed. Therefore, our model assumes that installation of irrigation is feasible if desired.*
- [Canopy Compass](#) - Canopy Farm Management and Savanna Institute
 - Canopy Compass is an online GIS crop suitability, mapping, and decision support tool that generates custom-tailored reports that helps remove guesswork, improve outcomes, and avoid pitfalls related to agroforestry and regenerative agriculture. Canopy Compass supports:
 - Farmers considering adding regenerative practices to their portfolio

- Landowners exploring regenerative options for their land
 - Investors scouting fields for an investment in regenerative agriculture
 - Lenders evaluating the risk of a particular crop in a field
 - Consultants and Land Managers gathering information for their clients
- [Perennial Pathways: Planting Tree Crops](#) - Savanna Institute
 - A comprehensive, 110-page guidebook to designing and installing farm-scale edible agroforestry, this book is indispensable for new agroforestry farmers throughout the stages of farm startup. Follow the book as it walks you through site evaluation, provides species profile and outlines livestock opportunities, and journeys deep into the opportunities of perennial agriculture.

[LEARNAGROFORESTRY.COM](#)

Learn Agroforestry is a course library hosted by Savanna Institute and created by Savanna Institute and contributing partners, including Appalachian Sustainable Development, Interlace Commons, Edwards Mother Earth Foundation, and others dedicated to growing agroforestry as a sustainable farming practice in the US

These self-paced online courses designed for STEM educators, natural resource professionals, and beginning farmers to help build sustainable farming skills. Each course features multimedia lessons with video and audio with all you need to dig deep into each subject. The self-paced courses can be taken individually or in sequence.

- [Beginning Farmer Courses Collection](#)
 - Our collection for beginning farmers focuses on key tree crops and practices, marketing, land access and finances. Each course features multimedia lessons with video and audio with all you need to dig deep into each subject. The self-paced courses can be taken individually or in sequence. Beginning farmers can take these courses to supplement an on-farm learning program or to build their résumé as they get started in agroforestry.
- [Beginning Farmers Agroforestry Foundations Course](#)
 - The Agroforestry Foundations course is designed to introduce you to a diversity of agroforestry practices, financial arrangements, farm designs and business models while helping you reflect on your own personal values and goals. Developed by the Savanna Institute, a nonprofit that lays the groundwork for widespread agroforestry in the Midwest.
- [Climate-Smart Agriculture: STEM Teacher Training](#)
 - This online course introduces educators to core concepts in teaching high school STEM classes about climate-smart agriculture – a vital topic of study in any 21st Century classroom. Lessons included in the course

guide educators in teaching about both the problems and solutions related to climate change and agriculture.

[THE CENTER FOR AGROFORESTRY AT THE UNIVERSITY OF MISSOURI](#)

The Center for Agroforestry at the University of Missouri, established in 1998, is a preeminent global center contributing to the science and practice underlying agroforestry, which combines trees and shrubs with crops or livestock.

Integrated practices of agroforestry (forest farming, alley cropping, silvopasture, riparian forest buffers, windbreaks, and urban food forests) help to protect the environment and improve biodiversity, while sustaining land resources for future generations.

- **[Handbook for Agroforestry Planning & Design](#)**
 - The development of a plan for integrating agroforestry practices to the farm system is as important as the actual establishment process. Planning – and the development of a timeline – will help maximize your chances for success. Use this guide to assist in understanding how your practices and their placement on the landscape can accomplish specific on-farm goals, as well as to provide helpful tips in identifying market opportunities for products grown in integrated agroforestry systems.
- **[Training Manual for Applied Agroforestry Practices](#)**
 - The Center for Agroforestry's Training Manual for Applied Agroforestry Practices is the result of collaborative efforts of UMCA faculty and staff, the USDA National Agroforestry Center, and the Mid-America Agroforestry Working Group. This text includes chapters on each of the recognized temperate agroforestry practices, planning and management guidelines, and extensive resources for economic budgeting, tree and shrub species, grasses and forages, and marketing agroforestry products.
- **[Agroforestry Training Academy](#)**
 - The Agroforestry Training Academy is an intensive educational program (5 week online course + 3-day in-person field experience) designed for agriculture and natural resources professionals & farmers to gain an in-depth understanding of agroforestry practices, design concepts, species selection and management, economics and marketing, and more.
- **[Agroforestry in Action Technical Guides](#)**
 - This is a repository of specialty crop cultivation guides that range in topics from growing and marketing papaw in Missouri to establishing and managing forest riparian buffers. For anyone looking to get more information about specific agroforestry crops better suited to Missouri-like climates and guidance on marketing, selling, and cultivation.

- [University of Missouri Center for Agroforestry Resource Library](#)
 - A robust collection of helpful agroforestry resources for farmers, landowners, agroforestry professionals, conservation professionals, funders, academics, and everyone in between.

[SAVANNA INSTITUTE RESOURCE LIBRARY](#)

The Savanna Institute (SI) is a 501(c)(3) nonprofit that catalyzes the development and adoption of resilient, scalable agroforestry. SI's vision is a multifunctional agriculture in the Midwest US based on agroforestry systems of integrated trees, crops, and livestock that fosters ecological resilience, climate stability, economic prosperity, and vibrant communities.

- [Getting Started in Agroforestry](#)
 - A resource page for those who want to get started on their agroforestry journey.
- [Demonstration Farms and Tours](#)
 - The SI network of Midwest Demonstration Farms are educational hubs for farmers and the public to learn about agroforestry. Demo Farms also provide a place where our scientists collect tree crop germplasm repositories, conduct variety trials, and show how agroforestry can be practiced within different regions.
- [Savanna Institute Technical Assistance Program Interest Form](#)
 - Are you interested in agroforestry technical assistance? Fill out this form to access agroforestry resources, programs, or technical support customized to your location and goals. Submit general questions here, or request a consultation for in-depth inquiries.
- [Key Perennial Crop Infographics](#)
 - These two-sided information sheets highlight ten perennial agroforestry crops with great potential for production in the Midwest. Explore some of the Midwest's most promising perennial crops. Learn about plant requirements, plant selection, spacing and timing. Learn best management practices, livestock integration, food safety concerns, harvesting and markets.
- [Understanding Agroforestry Infosheets](#)
 - Explore the five USDA-recognized agroforestry practices with these infographics. For anyone looking to start their journey into understanding the power and potential of agroforestry.
- [Agroforestry Impact Investment Plans](#)
 - The Savanna Institute has talked with experts across the value chain about the top ten bottlenecks for the Midwest Hazelnut and Eastern Chestnut industries. Our Impact Investment Plans help Midwest farmers and businesses understand

how they can access opportunities available in these promising perennial crop markets.

- **[Perennial Finances](#)**

- If you're thinking about adding trees or other perennial crops to your farm, you're likely thinking about financing options. Explore this resource page for guidebooks, primers, and other information on what Savanna Institute is doing to help regarding financing options.

[SAVANNA INSTITUTE YOUTUBE CHANNEL](#)

A treasure trove of videos from Savanna Institute and partners. A few key videos and series are listed below to get you started.

- **[Power & Opportunity of Agroforestry | Keefe Keely, Savanna Institute](#)** (50 mins)
- **[Agroforestry Farm Tours Video Series](#)** (5 hours total)
 - A playlist of videos and audio interviews with 6 different pioneering agroforestry farms.
- **[The Agroforestry Series: Planning and Design](#)** (1 hr)
 - Recording of the September 1st, 2022 webinar hosted by the Delta Institute, Savanna Institute, and Liberty Prairie Foundation. This in-depth look into the planning and designing process for agroforestry systems is led by Savanna Institute's Illinois Demonstration Farm Manager, Kaitie Adams.
- **[The Agroforestry Series: Right Crop, Right Market](#)** (1 hr)
 - Recording of the June 8th, 2023 webinar hosted by the Delta Institute, Savanna Institute, and Liberty Prairie Foundation. This webinar provides an overview of marketing considerations and crop selection for agroforestry systems to help set you up for success. Runtime: 59 minutes.
- **[The Agroforestry Series: Agroforestry and Soil Health - March 23rd, 2023](#)** (1h)
 - A recording of the March 23rd, 2023 webinar hosted by the Delta Institute, Savanna Institute, and Liberty Prairie Foundation. This panel discussion features Dr. Randy Jackson, grassland ecologist at the University of Wisconsin-Madison, and Erik Hagan, Savanna Institute's Spring Green Campus Farm Director.
- **[The Art + Oh-Sh*t of Maintaining Agroforestry Systems](#)** (30 mins)
 - Hosted in partnership with the Delta Institute, this panel discussion will focus on planning and designing for long-term maintenance, weed

management, on-the-fly, field-level decision-making, favorite equipment and tools, and tips and tricks to keep your agroforestry systems healthy for the long haul.

[SAVANNA INSTITUTE'S PERENNIAL AF PODCAST](#)

A podcast about perennial agroforestry (AF) that features interviews, event recordings, and stories from the field. Subscribe to hear real AF conversations with agroforesters and perennial farmers each month. Some relevant episodes are listed below to get you started.

- **[How Not to Start a Farm](#)** (30 mins)
 - Marie Raboin is a beginning farmer in southern Wisconsin who has already learned a lot from her first few years of raising livestock and tree crops. In this episode, host Jacob Grace visits Marie to see how many of his farm dreams can withstand her scrutiny.

- **["It's Better To Learn From Other People's Mistakes"](#)** (50 mins)
 - Kathy Dice and Tom Wahl of Red Fern Farm in southeastern Iowa have been practicing agroforestry for decades. In July, podcast host Jacob Grace visited Red Fern Farm to ask Tom and Kathy what they see as the three biggest agroforestry mistakes people can make, learn what their most profitable tree crops are, and explore their established, profitable, and highly diverse agroforestry system.

- **[Agroforestry For Climate Change Mitigation And Adaptation - With Nate Lawrence And Monika Shea](#)** (50 mins)
 - Host Jacob Grace talks with Savanna Institute researchers Nate Lawrence and Monika Shea, who dig into the details of agroforestry for climate change mitigation (through reduced inputs and carbon sequestration) and climate adaptation (through better mapping and management, among other things).

- **[The Climate Conversation Podcast: Agroforestry And The Farm Bill](#)** (24 mins)
 - A collaboration with another great podcast, The Climate Conversation, which is produced by the Environmental and Energy Study Institute (EESI). Hosts Dan Bresette and Emma Johnson interviewed Keefe Keeley, SI Executive Director, and Tucker Gretebeck, an organic dairy farmer who is working with our agroforestry adoption team.

- **[Agriculture as a Climate Solution: Just Add Trees](#)** (30 mins)
 - Savanna Institute's Executive Director, Keefe Keeley, and Wisconsin Community Agroforester, Barbara Decré, present agroforestry as a natural climate solution in a webinar for the Wisconsin Academy of Sciences, Arts, and Letters, recorded in March 2022.

OTHER RESOURCES

- [Financial Incentives Database](#) - Illinois Sustainable Ag Partnership (ISAP)
 - The Financial Incentives Database (FIND) tool was developed by ISAP to share financial payment opportunities that are available for adopting conservation practices such as cover crops, saturated buffers, and constructed wetlands. By listing program information side-by-side, the FIND tool allows farmers to compare programs and select the option that is best for their operation.
- [Tree Crops, A Permanent Agriculture](#). A book by J. Russell Smith
 - This book is a foundational text in the modern perennial agriculture and agroforestry movement.
- Key studies and papers, various authors. Useful especially for the agroforestry, agricultural, and conservation professionals. Sorted alphabetically by last name.
 - Fargione JE, et al. 2018. [Natural climate solutions for the United States](#). Science Advances 4:eaat1869.
 - Jackson W, Piper J. 1989. [The necessary marriage between ecology and agriculture](#). Ecology 70:1591–1593.
 - Malézieux E, et al (2009) [Mixing plant species in cropping systems: concepts, tools and models: A review](#). Agron Sustain Dev 29:43–62.
 - Molnar T, et al. 2013. [Tree crops, a permanent agriculture: Concepts from the past for a sustainable future](#). Resources 2:457–488.
 - Tschardt T, et al. 2012. [Global food security, biodiversity conservation and the future of agricultural intensification](#). Biological Conservation 151:53–59.
 - Tsonkova P, et al. 2012. [Ecological benefits provided by alley cropping systems for production of woody biomass in the temperate region: a review](#). Agrofor Syst 85:133–152.
 - Wilson MH and Lovell ST. 2016. [Agroforestry—The next step in sustainable and resilient agriculture](#). Sustainability 8:574–589.
 - Wolz KJ, et al. 2018. [Frontiers in alley cropping: transformative solutions for temperate agriculture](#). Global Change Biology 24: 883–894.