

# Guide to USDA Agroforestry Research Funding Opportunities

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## How to Use This Guide

This guide is intended for researchers and academics pursuing funding opportunities for research in agroforestry - the intentional integration of trees and agriculture. The guide provides an overview of external agroforestry research funding opportunities offered by the United States Department of Agriculture (USDA) agencies.

This publication was created for several reasons. Agroforestry is not always clearly identified in announcements about research funding opportunities. In addition, research on agroforestry can require a longer time horizon than research on annual systems, so awareness of multiple funding sources or multi-year funding opportunities can be useful. Last, though USDA offers grants that can support agroforestry research, it can be difficult to identify the best fit for a research objective.

Inside is an overview of each USDA external grant program relevant to agroforestry research, organized by agency. The description for each grant program includes a discussion of opportunities for agroforestry research, examples of agroforestry research supported, eligibility requirements, and additional resources.

We would like to thank the USDA Interagency Agroforestry Team for their contributions to this effort. We also thank the following individuals who participated in interviews: Catalino Blanche (NIFA), Phil Cherry (NRCS), Marlen Eve (ARS), Robert Hedberg (NIFA), Eric Norland (NIFA), and Eunice Padley (NRCS). Much of the information contained in this report was compiled by Christina Milos, USDA Forest Service Enterprise Team. We hope that this publication serves as a resource for those seeking support for agroforestry research, and look forward to seeing the results as this exciting area of research continues to grow.

### What is agroforestry?

Agroforestry is the intentional integration of trees or shrubs with crop and animal production to create environmental, economic, and social benefits. The five most common agroforestry practices in the United States are:

- Field, farmstead, and livestock windbreaks and shelterbelts
- Riparian forest buffers along waterways
- Silvopasture systems with trees, livestock, and forages
- Forest farming, with food, herbal (botanicals), and decorative products grown under managed forest cover
- Alley cropping with annual crops and high-value trees and shrubs.

## National Institute of Food and Agriculture (NIFA)

The National Institute of Food and Agriculture (NIFA) provides leadership and funding for programs that advance agriculture-related sciences, including agroforestry. NIFA invests in and supports initiatives that ensure the long-term viability of agriculture. Through three main federal-funding mechanisms, NIFA supports programs that address key national challenge areas. NIFA collaborates with leading scientists, policymakers, experts, and educators in organizations throughout the world to find innovative solutions to the most pressing local and global problems. In partnership with other federal science agencies, NIFA also serves as a vital contributor to science policy decision-making.

NIFA offers many different types of external grants that may be relevant for those seeking agroforestry research funding. NIFA applies an integrated approach to ensure that groundbreaking discoveries in agriculture-related sciences and technologies reach the people who can put them into practice. NIFA programs propel cutting-edge discoveries from research laboratories to farms, classrooms, communities, and back again. See [General Grant Writing Tips for Success](#) for more information that applies to all of the funding opportunities listed below.

## External Grants Offered

### Sustainable Agriculture Research and Education (SARE)

SARE's mission is to advance—to the whole of American agriculture—innovations that improve profitability, stewardship and quality of life by investing in groundbreaking research and education. SARE offers grants to farmers, ranchers and agriculture professionals, and has invested \$250 million in projects that improve the sustainability of farming and ranching systems. SARE-supported projects address topics including cover crops and soil health, biological pest control, energy, rangeland management, whole-farm system research, marketing, biodiversity, business planning, and more. SARE was started in 1988 and conceived as a decentralized, science-based, grassroots, practical, problem solving – and inclusive – competitive grant making and outreach program. SARE grants are offered in four different regions (Fig. 1). Each regional council sets its own priorities, grant categories and timelines.

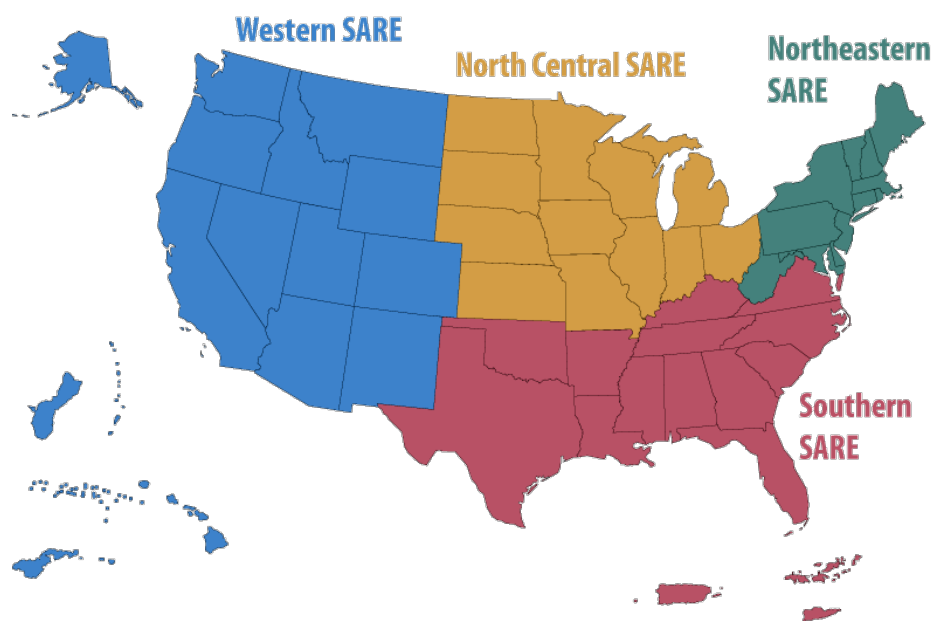


Figure 1: SARE Grant Regions

## Opportunities for Agroforestry Research

Agroforestry systems provide innovative ways to meet SARE program goals of improving profitability, stewardship, and quality of life for farmers. Agroforestry systems also fit in with a wide array of sustainable agriculture operations, from livestock to row crops, vegetable growers, and fruit tree farmers. The diversity of agroforestry makes it relevant to all of the audiences that SARE serves.

SARE grants offer excellent funding opportunities for agroforestry researchers.. SARE provides a variety of grant programs each with unique objectives. The common themes focus on systems approaches that integrate livestock and crops, social issues, and profitability, which are ideal for agroforestry research. Some grants are specific to developing markets and some regions offer long-term systems research grants that are very applicable to perennial cropping systems such as agroforestry. Over the years, a large number of farmer/rancher grants, professional development grants, and partnership grants have gone towards agroforestry work, with 291 projects in the project database that include agroforestry. These SARE-supported agroforestry projects cross all agroforestry practices, including at least 47 projects related to silvopasture, 19 related to forest farming, 45 related to alley cropping, and 60 related to windbreaks, and 4 related to riparian forest buffers. Ten projects were funded in 2015 alone.

## SARE Grant Agroforestry Project Examples

Year	Recipient	Grant
2017	Keefe Keeley (Savanna Institute)	<b>Crop Performance, Pests, and Pollinators in Diverse Agroforestry Systems (North Central Region, On Farm Research/Partnership Grant)</b> The project objective was to evaluate the growth and yield of Diverse Agroforestry (DA) systems. Four collaborating midwest farmers in the Savanna Institute’s Case Study Program partnered with Savanna Institute staff and an entomologist intern to evaluate the growth of DA systems across a range of management strategies, identify baseline pollinator communities, and monitor crop pathogens. To disseminate results, a multi-faceted education and outreach approach leveraged time-lapse videos, on-farm field days, and a digital/printed bulletin.
2017	John Fike (Virginia Tech)	<b>Made in the Shade – Using Silvopasture Research and On-farm Demonstrations to Advance These Sustainable Agroforestry Systems (Southern Region, Research and Education Grant)</b> To further the adoption of sustainable agricultural systems, the project was to conduct social science research to identify perceptions of silvopastures held by a broad swath of the producer and technical service provider communities; address key biophysical questions being asked by early-adopters and service providers; and couple knowledge gained from the surveys and biophysical research (at research and extension centers and at on-farm sites) to develop demonstration and training programs.
2017	L. Robert Barber, Jr. (University of Guam)	<b>Seven Trees, Seven Practices: Demonstrating Agroforestry in the Western Pacific (Western Region, On Farm Research/Partnership Grant)</b> The goal of the project is to find out the appropriate intensive farming system on micro-plots to develop economically significant (purchased food substitution, market gardening) outputs for a tropical island environment. This is a two-year agroforestry demonstration and education project leveraging a peer education model projected to reach 140 total workshop attendees.

Year	Recipient	Grant
2015	Jim Brandle (Univ. of Nebraska), Robert Dobos (NRCS), Richard Hall (Iowa State Univ.), John Tyndall (Iowa State Univ.)	<p><b>Great Plains Agroforestry: Evaluation of Bioenergy Feedstock and Carbon Sequestration as Potential Long-term Revenue Streams to Diversify Landowner Income (North Central Region, Research and Education Grant)</b></p> <p>The overall project goal was to evaluate the potential of agroforestry plantings in the Great Plains to provide bio-based feedstock, income, investment, and carbon sequestration opportunities.</p>
2014	Richard Smith (University of New Hampshire)	<p><b>Silvopasture in the Northeast: Environmental and Economic Implications of Land-use Conversion within a Northern Hardwoods Forest (Northeast Region, Farmer Grant)</b></p> <p>The research tested the environmental and economic impacts of converting a northern hardwoods stand into silvopasture in comparison to treating the stand as a managed forest or converting it to an open pasture.</p>
2013	Clare Hintz, Erin Schneider, Rachel Henderson	<p><b>Direct Marketing Non-Traditional Perennial Berry Varieties: Expanding Eater Preferences and Grower Connections (North Central Region, Farmer/Rancher Grant)</b></p> <p>In this project, farmers using agroforestry practices to grow perennial berries investigated the economics and marketing of the berries. They addressed marketing challenges for perennial berries by engaging, education, and involving existing and future customers to help determine uses, products, and pricing of less common perennial berries to determine best markets</p>
2010	Kenneth Mudge (Cornell University), Bridgett Jamison (University of Vermont)	<p><b>Cultivation of Shiitake Mushrooms as an Agroforestry Crop for New England (Northeast Region, Research and Education Grant)</b></p> <p>Forest farming of shiitake mushrooms is an agroforestry practice that increases crop diversity while providing diversified income for farmers and other forest owners. The project trained over 148 prospective shiitake farmers in the basics of growing shiitake mushrooms and tracked the farmers who attempted to grow shiitake mushrooms. Several publications were also developed for forest owners and others interested in shiitake farming.</p>
2006	Richard Shuren (Greenwood Resources)	<p><b>Silvopasture with Hybrid Poplar and Sheep (Western Region, Farmer/Rancher Grant)</b></p> <p>This project sought to demonstrate a successful silvopasture system for hybrid poplars and sheep during the early years of the tree rotation. The challenge was to demonstrate that sheep could be successfully pastured in young stands without causing damage to the trees.</p>

## SARE Grant Details

There are four administrators of SARE grants, organized by regions: Northeast SARE Grants, North Central SARE Grants, Southern SARE Grants, and Western SARE grants. All grant regions administer several grant programs, each with specific priorities, audiences, and timelines.

The SARE program focuses on research and extension that will help growers solve a problem. SARE looks for strong producer engagement from project conception to project completion. In addition, all projects should have an outreach component that communicates what has been done. The project should also be carefully tailored to the specific site, including the social, physical, and economic environment.

### *Northeast SARE Grants*

Northeast SARE grants include farmer grants, partnership grants, graduate student grants, research and education grants, research for novel approaches, professional development grant, and agroecosystems research grants. Northeast SARE grants come in two sizes – large, multiyear projects ranging from \$30,000 to \$200,000, and smaller, shorter-term projects of \$15,000 or less. The two funding tiers have different application requirements.

### *North Central SARE (NCR-SARE) Grants*

The focus for all of NCR-SARE grant programs is on research and education. NCR-SARE programs include the farmer rancher grant program, research and education grant program, professional development program, graduate student grant program, youth educator grant program, and partnership grant program. Funding considerations are based on how well the applicant presents the problem being addressed, its relevance to sustainable agriculture in the 12-state North Central region, and how well it aligns with NCR-SARE's goals.

### *Southern SARE Grants*

Southern SARE programs include research and education grants, large systems research grants, professional development grants, on-farm research grants, producer grants, sustainable community innovation grants, graduate student grants, and the James Harrison Hill, Sr. Young Scholar Enhancement grant program. Each type of grant benefits a different constituency, from the “big grant” programs that support research and education and for professional development to the smaller grants for farmers, the professionals who work directly with farmers, and students.

### *Western SARE Grants*

Western SARE grant programs include research and education grants, professional development program grants, farmer/rancher grants, professional and producer grants, and graduate student grants in sustainable agriculture.

### *Who is eligible?*

Researchers, educators, nonprofits, producers, extension, graduate students, and community organizations may all be eligible to apply. Eligibility criteria vary by region, and those interested in applying should contact the appropriate regional office for further details.

Learn more about SARE Grants at: <http://www.sare.org/Grants>

## Hatch Funds

As supported by the Hatch Act of 1887, the purpose of Hatch Act funding is to conduct agricultural research programs at State Agricultural Experiment Stations in the 50 States, the District of Columbia, and the Insular Areas. Hatch activities are broad and includes research on all aspects of agriculture, including soil and water conservation and use; plant and animal production, protection, and health; processing, distribution, safety, marketing, and utilization of food and agricultural products; forestry, including range management and range products; multiple use of forest rangelands, and urban forestry; aquaculture; home economics and family life; human nutrition; rural and community development; sustainable agriculture; molecular biology; and biotechnology. Research may be conducted on problems of local, state, regional, or national concern.

Hatch funds also include Hatch Multistate Research Funds. The purpose of Multistate Research Funds is to conduct research by institutions in multiple states to solve problems that concern more than one state. These funds must be used for cooperative research employing multidisciplinary approaches in which a state agricultural experiment station, working with another State agricultural experiment station, the Agricultural Research Service, or a college or university, cooperates to solve problems that concern more than one state.

### Opportunities for Agroforestry Research

The broad nature and multiple-year focus of Hatch fund priority issues mean they are well suited for agroforestry projects, which may cover multiple aspects relevant to the funds. Hatch Funds have supported at least 140 projects related to agroforestry, including at least 14 multi-state projects.

### Hatch Fund Agroforestry Project Examples

Year	Recipient	Grant
2016	New Mexico State University	<b>Sustainable Agroforestry Systems for Crop and Wood Production in a Semi-Arid Region</b> The goal of this project is to investigate agroforestry systems that can be incorporated into existing land use practices by local producers, Native American communities, and ultimately agroforestry practitioners in other arid and semi-arid lands of the world. This includes identifying fruit/nut/medicinal/nitrogen-fixing species that can be integrated into alley cropping agroforestry systems after selective harvesting of plantation in a semi-arid location and evaluating best size requirements of unrooted cuttings as planting material for hybrid poplar in a semi-arid location. The project will also determine long-term growth potential of hybrid poplar under different levels of irrigation in a semi-arid location.
2016	University of the District of Columbia	<b>Determining Effects of Nitrogen Fixing Plants on Nutrient Density and Productivity in Agroforestry and Polyculture Systems</b> The University of the District of Columbia is researching the impacts of including nitrogen fixing trees and shrubs in food forest systems in order to demonstrate viable polyculture crops for the Mid-Atlantic region.
2012	University of Missouri	<b>Conservation, Management, Enhancement and Utilization of Plant Genetic Resources (Multistate Research Funds)</b> The University of Missouri Center for Agroforestry worked with ARS National Center for Genetic Resources Preservation to establish and manage germplasm repositories for black walnut, Chinese chestnut, and pecan trees. In cooperation with Colorado State University (CSU), University of Tennessee (UT), Virginia Tech University (VT), and University of California/Davis (UCD), as well as the USDA Forest Service and USDA Agricultural Research Service (ARS), strategies were implemented to address the threat of Thousand Cankers Disease to black walnut resources in Missouri.



Year	Recipient	Grant
2012	North Carolina State University	<b>Agroecosystem and Agroforestry Research in North Carolina</b> A 17-acre agroforestry research and extension alley cropping trial was established at the Center for Environmental Farming Systems with a randomized block design with five replications. Corn and soybeans were planted between pine and oak in North Carolina to examine the environmental impacts and outputs among three agroecosystems, a regenerating natural system and a forestry system. The purpose of this study was to learn more about the sustainability of various agricultural systems.

### Hatch Grant Details

Funds appropriated shall be used to conduct original and other research, investigations, and experiments bearing directly on and contributing to the establishment and maintenance of a permanent and effective agricultural industry of the United States, including researches basic to the problems of agriculture in its broadest aspects, and such investigations as have for their purpose the development and improvement of the rural home and rural life and the maximum contribution by agriculture to the welfare of the consumer, as may be deemed advisable, having due regard to the varying conditions and needs of the respective States.

#### *Who is eligible?*

State Agricultural Experiment Stations are eligible for funds appropriated under the Hatch Act according to the following formula: The previous year's base plus the current year increase as follows: three percent for Federal Administration, 20 percent equally, 26 percent in an amount which bears the same ratio to the total amount to be allotted as the rural population of the State bears to the total rural population of all the States as determined by the last preceding decennial census; 26 percent in an amount which bears the same ratio to the total amount to be allotted as the farm population of the State bears to the total farm population of all the States as determined by the last preceding decennial census; and 25 percent for the Hatch Multistate Research Fund (which is allocated under a separate formula).

Applications may only be submitted by authorized representatives on behalf of the State Agricultural Experiment Stations located in the 50 States, the District of Columbia and the Insular Areas in accordance with the Hatch Act of 1887 (7 U.S. C. 361a). Award recipients may subcontract to organizations not eligible to apply provided such organizations are necessary for the conduct of the project. Failure to meet an eligibility criterion by the time of application deadline may result in the application being excluded from consideration or, even though an application may be reviewed, will preclude NIFA from making an award.

#### *Multistate Research Fund*

Not less than 25 percent of the total Hatch Act of 1887 funding is allotted to the states for cooperative research employing multidisciplinary approaches in which a State agricultural experiment station, working with another State agricultural experiment station, the Agricultural Research Service, or a college or university, cooperates to solve problems that concern more than one state. These funds are designated as the "Multistate Research Fund, State Agricultural Experiment Stations." Not less than the applicable percentage of the amounts that are paid to a State under subsections Sections (b) and (c) during a fiscal year shall be expended by States for cooperative extension activities in which 2 or more States cooperate to solve problems that concern more than 1 State (referred to in this subsection as "multistate activities")

Learn more about Hatch Grants at: <http://nifa.usda.gov/program/hatch-act-1887>

## Evans-Allen

The purpose of this funding is to support agricultural research activities at 1890 Land-Grant Institutions. Recipients of these funds must provide a 100 percent match from non-federal sources. Funds appropriated under this section shall be used for expenses of conducting agricultural research, printing, disseminating the results of such research, contributing to the retirement of employees subject to the provisions of the Act of March 4, 1940, administrative planning and direction, and purchase and rental of land and the construction, acquisition, alteration, or repair of buildings necessary for conducting agricultural research.

### Opportunities for Agroforestry Research

The broad support provided by the Evans-Allen funds for 1890 Land Grants institutions provides significant latitude for meeting capacity building needs. Some agroforestry systems may require specialized equipment for production or research which can be acquired with these grants. Evans-Allen funds have supported at least 16 projects related to agroforestry.

### Evans Allen Agroforestry Project Examples

Year	Recipient	Grant
2014	Tennessee State University	<b>Tree-based Soil Carbon Research and Outreach in Middle Tennessee</b> This project sought to enhance soil carbon sequestration in limited resource small agroforestry and forest wood land owners through applied research, demonstration and implementation.
2014	Alabama A&M University	<b>Sustainable Silvopasture Systems for Small and Limited Resource Farmers in the Southeast U.S.</b> The project provided an economically attractive livestock/ forage/timber production method for limited resource and minority landowners in the southeast, who still need to retain a flow of annual income from agriculture while they are growing trees for timber. In addition, this project provided awareness of agroforestry's economic, social, and environmental benefits to farmers and forest landowners on small and medium sized farms in the southeast U.S.
2013	North Carolina A&T State University	<b>Integrating High Tunnel and Agroforestry Technologies for Vegetable Production in Small Farms of North Carolina</b> This research aimed to increase knowledge of the interaction of trees in high tunnel production, and development of profitable cropping systems in high tunnel-tree system. The long term outcome is organic vegetables that are profitably produced in high tunnels with trees providing extra income and ecosystem services.

### Evans-Allen Grant Details

The State shall provide matching funds from non-federal sources. Such matching funds shall be for an amount equal to not less than ... 100 percent of the formula [grant] funds to be distributed to the eligible institution for fiscal year 2007 and each fiscal year thereafter. ... Notwithstanding [redistributing the funds], the Secretary may waive the matching funds requirement ... above the 50 percent level for any fiscal year for an eligible institution of a State if the Secretary determines that the State will be unlikely to satisfy the matching requirement.

#### *Who is eligible?*

Only 1890 Land-Grant Universities, including Tuskegee University, West Virginia State University, and Central State University that conduct agricultural research activities in accordance with Section 1445 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA) (7 U.S.C. 3222): Alabama A&M University; Tuskegee University; University of Arkansas - Pine Bluff; Delaware State University; Florida A&M University; Fort Valley State University; Kentucky State University; Southern University; University of Maryland – Eastern Shore; Alcorn State University; Lincoln University; North Carolina A & T State University; Central State University; Langston University; South Carolina State University; Tennessee State University; Prairie View A&M University; Virginia State University; and West Virginia State University may submit applications. Award recipients may subcontract to organizations not eligible to apply provided the subcontracts are necessary for the conduct of the project.

*Learn more about Evans-Allen Grants at:*

<https://nifa.usda.gov/program/agricultural-research-1890-land-grant-institutions>

### McIntire-Stennis Capacity Grant

The McIntire-Stennis Cooperative Forestry Research Program (PL87-788) is a formula-based program for forestry research at Land Grant and related universities. This grant is used to assist all states in carrying out a program of state forestry research at state forestry schools and colleges and developing a trained pool of forest scientists capable of conducting needed forestry research under the following research topics: 1) Reforestation and management of land for the production of crops of timber and other related products of the forest; 2) Management of forest and related watershed lands to improve conditions of water flow and to protect resources against floods and erosion; 3) Management of forest and related rangeland for production of forage for domestic livestock and game and improvement of food and habitat for wildlife; 4) Management of forest lands for outdoor recreation; 5) Protection of forest land and resources against fire, insects, diseases, or other destructive agents; 6) Utilization of wood and other forest products; 7) Development of sound policies for the management of forest lands and the harvesting and marketing of forest products. Funding is provided to the states through a formula-based allocation process.

### Opportunities for Agroforestry Research

The McIntire-Stennis program is a major supporter of agroforestry research due to the specific focus of the funds on forestry and other tree-based research. This program also supports landscape-scale and multi-disciplinary research consistent with the strengths of agroforestry systems. A number of the current research topics are directly related to agroforestry practices. McIntire-Stennis funds have supported at least 111 agroforestry projects.

## McIntire-Stennis Capacity Grant Agroforestry Project Examples

Year	Recipient	Grant
2012	University of Florida	<p><b>Development and Evaluation of Agroforestry Systems</b></p> <p>University of Florida researchers are collaborating at five sites around the world (Florida: bahia/slash pine; India: multispecies plants; Brazil: shade-grown cacao; Spain: oak dehesa grazing system; Brazil: silvopasture with eucalyptus) to compare agroforestry systems with treeless systems. The major focus of the project was on carbon sequestration in soils under agroforestry systems.</p>
2012	University of Nebraska	<p><b>Shelterbelts in Today's Agricultural Production Systems</b></p> <p>This study assessed the roles that woody plants play in agricultural ecosystems, described these impacts in terms of the ecological and economic benefits that flow from these systems, and developed delivery systems to encourage landowners to adopt shelterbelt technology. Researchers at the University of Nebraska are partnering with the Organic Crop Improvement Association, the Nebraska Sustainable Agricultural Society, NAC, and NRCS to research the impacts of windbreaks on long-term corn, soybean, and winter wheat yields; irrigation efficiency; and organic/diversified production systems. They are also determining the water use by green ash windbreaks and developing biomass equations for five common windbreak species to determine potential carbon sequestration. Lastly, they will figure out why landowners in the Great Plains are reluctant to adopt windbreak practices.</p>

### McIntire-Stennis Grant Details

The purpose of this funding is to increase forestry research in the production, utilization, and protection of forestland; to train future forestry scientists; and to involve other disciplines in forestry research. All research projects submitted to NIFA must fall in one or more of the seven forestry research mandated areas identified in the McIntire-Stennis legislation. In addition to the eligible forestry research mandated areas described above, projects should also address the high priority issues described in the current M-S Strategic Plan: 1) science of integration (ecosystem or landscape approaches including interdisciplinary multi-state projects); 2) forest ecosystem services; 3) human attitudes and behaviors; 4) conflict, uncertainty, and decision-making; 5) technological advancements (biotechnology, nanotechnology and geospatial technology), productivity, and forest applications; and 6) urban ecosystems.

#### *Who is eligible?*

Applications may only be submitted by State-certified Schools of Forestry as stipulated in accordance with Section 2 of P. L. 87-788, McIntire-Stennis Act.

Learn more about McIntire-Stennis Grants at: <https://nifa.usda.gov/program/mcintire-stennis-capacity-grant>

## Agriculture and Food Research Initiative (AFRI) Grant

The purpose of AFRI is to support research, education, and extension as well as integrated programs by awarding grants that address key problems of national, regional, and multi-state importance in sustaining all components of agriculture. NIFA provides AFRI grants to support research, education and extension activities in six Farm Bill priority areas: plant health and production and plant products; animal health and production and animal products; food safety, nutrition, and health; bioenergy, natural resources, and environment; agriculture systems and technology; and agriculture economies and rural communities. NIFA's AFRI funding portfolio includes both single- and multi-function research, education, and extension grants. AFRI-funded projects sustain all components of agriculture, including farm efficiency



and profitability, ranching, renewable energy, forestry (both urban and agroforestry), aquaculture, rural communities and entrepreneurship, human nutrition, food safety, biotechnology, and conventional breeding.

The AFRI Program annually publishes Requests for Applications which describe the program, funding priorities, eligible institutions, and application process. The AFRI RFA's can be found on the NIFA AFRI webpage, <https://nifa.usda.gov/program/agriculture-and-food-research-initiative-afri>

The AFRI Program solicits applications in three programs:

1. Sustainable agriculture systems program – This AFRP program focus on approaches that promote transformational changes in the U.S. food and agriculture system within the next 25 years. Funded projects seek creative and visionary applications that take a systems approach, and that significantly improve the supply of abundant, affordable, safe, nutritious, and accessible food, while providing sustainable opportunities for expansion of the bioeconomy through novel animal, crop, and forest products and supporting technologies. These approaches must demonstrate current and future social, behavioral, economic, health, and environmental impacts. The outcomes of projects being proposed must result in societal benefits, including promotion of rural prosperity and enhancement of quality of life for those involved in food and agricultural value chains from production to utilization and consumption.
2. Foundational program – This AFRI program focuses on building a foundation of fundamental and applied knowledge in food and agricultural sciences critical for solving current and future societal challenges. The program supports single-function and integrated research projects as standard, conference, and Food and Agricultural Science Enhancement (FASE) grants. In addition to the foundational science projects, the Foundational Program also includes:
  - a. Critical Agricultural Research and Extension (CARE) - Despite prior investments in basic and applied research, critical problems continue to impede the efficient production and protection of agriculturally-important plants and animals. These problems may be local, regional, or national; often call for work in one or more scientific disciplines; and need immediate attention to meet producer needs. Finding solutions to these critical problems requires partnership and close coordination among researchers, extension experts, and producers. CARE projects are designed to yield solutions or practices that can be rapidly implemented to meet pressing needs limiting agricultural production.
  - b. Exploratory Grants - This program supports development of innovative ideas that will position U.S. agriculture at the global forefront and lead to quantum leaps in the food and agricultural sciences. Exploratory grants fund novel projects that address challenges in the areas of food security, climate change, environmental quality and natural resources, nutrition, obesity, and food safety, and promote strong families, vibrant communities, and thriving youth.
3. The AFRI Education and Workforce Development Program (EWD) addresses projected shortfalls of qualified graduates in the agricultural, food, and renewable natural resources sectors of the U.S. economy. The AFRI EWD has three overarching goals:
  - a. 1. Enhancing Agricultural Literacy: Offers institutional grants for in-service training, which will provide K-14 teachers and administrators with increased knowledge of food and agricultural science disciplines and career opportunities, and help them to develop improved curricula to enhance agricultural literacy.
  - b. Developing Pathways: Promotes research and extension learning experiences for undergraduates such that upon graduation they may enter the agricultural workforce with exceptional skills. These opportunities will help students develop the critical thinking,

problem solving, digital competency, international experiences, and communication skills needed for future employment and/or higher education; and

- c. Advancing Science: Prepare the next generation of scientists and professionals through graduate and postdoctoral fellowships. The aim of these fellowships is to cultivate future leaders who are able to solve emerging agricultural challenges of the 21st century.

The AFRI portfolio includes Coordinated Agricultural Projects (CAP) and Food and Agricultural Science Enhancement (FASE) grants. CAP grants are large, multi-million dollar projects that involve multiple institutions. FASE grants help institutions become more competitive and attract new scientists and educators to careers in high-priority areas of agriculture.

### Opportunities for Agroforestry Research

NIFA’s requests for applications (RFAs) vary from year to year. This means that opportunities to apply for agroforestry research funding may vary depending on the specific requests for each year. However, the many and diverse benefits of agroforestry systems align very well with the six priority areas in the current Farm Bill. At least 17 projects related to agroforestry have been funded in the past, suggesting that opportunities to conduct agroforestry research may continue to be available in the future.

### AFRI Agroforestry Project Examples

Year	Recipient	Grant
2016	Tuskegee University	<p><b>Agroforestry-based Cropping Systems for Sustaining Small- and Medium-sized Land Owners in the Southeastern US</b></p> <p>The long-term goal of the project is to promote sustainable agriculture and resilient rural communities through the development of robust, sustainable agroforestry alley cropping systems that promote long-term soil productivity and generate both short- and long-term incomes from crops, livestock, and trees.</p>
2015	Washington State University’s Prosser Irrigated Agriculture Research and Extension Center, GreenWood Resources Tree Farm	<p><b>Pacific Northwest Bioenergy (Switchgrass and Hybrid Poplar) and Climate Change Mitigation System</b></p> <p>Scientists from Washington State University’s Prosser Irrigated Agriculture Research and Extension Center partnered with GreenWood Resources Tree Farm to evaluate (1) the ability of two crops to grow together and remain productive and (2) their impacts on ecosystem services (water use, carbon storage, nutrient cycling, and greenhouse gas emissions). They planned to use local animal waste for nutrients and co-locate their feedstock and biofuel production facilities to reduce cost.</p>
2013	University of California-Berkeley	<p><b>Karuk Traditional Agroforestry Systems</b></p> <p>University of California-Berkeley researchers are partnering with officials from the Karuk Tribe Department of Natural Resources and Forest Service to evaluate the effects of traditional land management techniques, such as prescribed burning, on the productivity and availability of traditional foods (such as salmon, deer, elk, acorns, mushrooms, and berries). The Karuk Tribe’s traditional homeland is on two national forests in northern California, and the traditional management techniques are ways that their elders tended the foods of the forest, a type of forest farming.</p>

## AFRI Grant Details

AFRI grants offer funding for single-function and integrated agricultural research, education, and extension efforts that address key problems of local, regional, national, and global importance in sustaining conventional and organic food and agriculture systems. NIFA makes grants for high priority research, education, and extension, taking into consideration current legislation, stakeholder input, and recommendations from the National Agricultural Research, Extension, Education, and Economics Advisory Board. NIFA's requests for applications vary from year to year. In Fiscal Year 2017, there were seven requests for applications, including the Foundational Program; Childhood Obesity Prevention Challenge Area; Food Safety Challenge Area; Resilient Agroecosystems in a Changing Climate Challenge Area; Sustainable Bioenergy and Bioproducts Challenge Area; Water for Food Production Systems Challenge Area; and the Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative. In FY2018, the Challenge Areas have been incorporated into a single program, Sustainable Agricultural Systems.

### *Food and Agricultural Science Enhancement (FASE) Grants*

FASE Grants are designed to help institutions develop competitive projects and to attract new scientists and educators into careers in high-priority areas of national need in agriculture, food, and environmental sciences. FASE Grants consist of New Investigator Grants, Pre- and Postdoctoral Fellowship Grants, and Strengthening Grants. Strengthening Grants are further divided into Sabbatical Grants, Equipment Grants, Seed Grants, Strengthening Standard Grants, Strengthening CAP (Coordinated Agricultural Project) Grants, and Strengthening Conference Grants.

### *Who is eligible?*

Subject to the availability of appropriations to carry out the AFRI program, grants may be awarded to state agricultural experiment stations; colleges and universities; university research foundations; other research institutions and organizations; federal agencies; national laboratories; private organizations or corporations; individuals; or any group consisting of two or more of the aforementioned entities.

*Learn more about AFRI Grants at:*

<https://nifa.usda.gov/program/agriculture-and-food-research-initiative-afri>

## Beginning Farmer and Rancher Development Program

The primary goal of Beginning Farmer and Rancher Development Program (BFRDP) is to help beginning farmers and ranchers in the U.S. and its 6 territories to enter and/or improve their success in farming, ranching, and management of nonindustrial private forest lands, through support for projects that provide education, mentoring, and technical assistance to give beginning farmers the knowledge, skills, and tools needed to make informed decisions for their operations, and enhance their sustainability. The term “farmer” is used in the broadest sense and should be interpreted to include agricultural farmers, ranchers, and non-industrial private forest owners and managers.

The Food, Conservation, and Energy Act of 2008 (Pub .L. No. 110-234, Section 7410) appropriated \$75 million for FY 2009 to FY 2012 to develop and offer education, training, outreach and mentoring programs to enhance the sustainability of the next generation of farmers. The Agriculture Act of 2014 provided an additional \$20 million per year for 2014 through 2018. The strong interest in beginning farmer and rancher programs is driven by the following factors: the rising average age of U.S. farmers; the 8% projected decrease in the number of farmers and ranchers between 2008 and 2018; and the growing recognition that new programs are needed to address the needs of the next generation of beginning farmers and ranchers.

## Opportunities for Agroforestry Research

The intensive management approach of agroforestry creates a system that is productive even at a small scale that is well-suited to beginning farmers. Agroforestry systems can also be used to grow high quality and high value crops because of the micro-environments created with perennial crops. The Beginning Farmer and Rancher Development Program has supported at least seven projects related to agroforestry research. This program would be well-suited for researchers interested in highly applied agroforestry research.

## Beginning Farmer and Rancher Development Program Agroforestry Examples

Year	Recipient	Grant
2015	Virginia Polytechnic Institute	<b>Appalachian Beginning Forest Farmer Program: Growing Opportunities beneath the Canopy</b> The project goal is to support beginning Appalachian medicinal plant forest farmers by forming a coalition that provides technical, administrative, and market sales training and improves access to farm resource inventory and plant habitat management services. The project will: 1) establish an inclusive coalition with clear organizational structure and decision making processes; 2) educate, train, and support beginning forest farmers; and 3) improve forest farm inventory and medicinal plant habitat management services for beginning forest farmers.
2015	University of Arkansas	<b>Armed to Farm: Soldiering the Success of Military Veterans in New Poultry, Livestock and Agroforestry Enterprises</b> The long term goal of this project is to develop and expand on a personalized comprehensive and integrated educational program that provides beginning farmers and ranchers with relevant information and practical skills to create an individual plan to initiate, maintain, advance, diversify and succeed in their new or beginning agricultural enterprises. This program uses elements and strategies that are easy and inexpensive to establish, maintain and administer while providing fast returns, multiple marketing strategies (poultry, small ruminants and agroforestry) and using ecologically and financially sustainable and profitable strategies. In addition many of these ideas can be incorporated into other production systems to diversify productivity and increase profitability for producers and rural communities.

### Beginning Farmer and Rancher Development Program Grant Details

The target audience for Beginning Farmer and Rancher Development Program (BFRDP) is farmers and ranchers who have not operated a farm or ranch, or have operated a farm or ranch for not more than 10 years.

#### *Who is eligible?*

1862 Land-Grant institutions, 1890 Land-Grant institutions, 1994 Land-Grant institutions, Hispanic-serving institutions, and private institutions of higher education may be eligible to apply. The recipient must be a collaborative, state, tribal, local, or regionally-based network or partnership of public or private entities, which may include: state cooperative extension service; community-based and nongovernmental organization; college or university (including institutions awarding associate degrees); or any other appropriate partner. Others may be eligible to apply – please see website for details.

*Learn more about Beginning Farmer and Rancher Development Grants at:*

<https://nifa.usda.gov/program/beginning-farmer-and-rancher-development-program-bfrdp>



## Small Business Innovation Research Program (SBIR)

The Small Business Innovation Research (SBIR) program at the U.S. Department of Agriculture (USDA) offers competitively awarded grants to qualified small businesses to support high quality research related to important scientific problems and opportunities in agriculture that could lead to significant public benefits. The program stimulates technological innovations in the private sector and strengthens the role of federal research and development in support of small businesses. The SBIR program also fosters and encourages participation by women-owned and socially or economically disadvantaged small businesses.

### Opportunities for Agroforestry Research

The diverse nature of agroforestry systems creates opportunities for research that align with this program's priority topics. The most obvious are plant and animal production and protection. The perennial nature of agroforestry also offers many environmental benefits such as protection of air, water and soils. The current USDA focus on rural development and beginning farmers are other areas of agroforestry research opportunities. The Small Business Innovation Research Program has supported at least two projects related to agroforestry research. In addition, one of the topic areas is 'Forests and Related Resources' indicating that there is support for projects related to agroforestry.

### SBIR Agroforestry Project Examples

Year	Recipient	Grant
2015	Eldertide LLC	<b>Developing a US Produced Elderberry Juice Concentrate for Domestic and Export Markets</b> The objectives of the project are to develop US produced elderberry juice concentrate by creating a manufacturing process design, establishing the framework supporting business to business elderberry cooperative, and developing a national and global branding and marketing strategy.
2006	Sleepy Hollow Farm	<b>Establishing a Viable Organic Goldenseal Production System for Small Family Farms Phase II</b> Goldenseal ( <i>Hydrastis canadensis</i> ) is a popular shade loving medicinal herb that is primarily wild-collected and has become endangered or threatened in many areas. By developing a viable organic production system for goldenseal this projects addresses both these problems through a work plan which will provide increased income and financial stability for small farmers through the utilization of idle forestland to produce goldenseal but also provides a desirable environmental side benefit through the reduction in the need for wild collected goldenseal.

## SBIR Grant Details

Phase I requests for applications (RFA) are generally released every year in June with due dates in October. Phase II RFAs are generally released every year in December with due dates in February. Prospective applicants are encouraged to review the USDA SBIR RFA to gain a better understanding of the SBIR Program. Please note the USDA SBIR RFA's may be closed, however the RFA's are still accessible for viewing and planning purposes.

### *Who is eligible?*

Each applicant submitting an application must qualify as a small business concern for R/R&D purposes at the time of award. In addition, the primary employment of the project director (PD) must be with the small business concern at the time of award and during the conduct of the proposed research. Primary employment means that more than one-half of the PD's time is spent in the employ of the small business. Primary employment with the small business precludes the applicant as a full-time employee with another organization. While the PD must work more than one-half of his/her time for the small business during the entire grant period, there is no minimal time requirement for what percentage of the PD's time is spent working on the proposed research.

*Learn more about SBIR Grants at:*

<https://nifa.usda.gov/program/small-business-innovation-research-program-sbir>

## Specialty Crop Research Initiative (SCRI)

The purpose of the Specialty Crop Research Initiative (SCRI) program is to address the critical needs of the specialty crop industry by awarding grants to support research and extension that address key challenges of national, regional, and multi-state importance in sustaining all components of food and agriculture, including conventional and organic food production systems. Projects must address at least one of five focus areas:

- Research in plant breeding, genetics, genomics, and other methods to improve crop characteristics
- Efforts to identify and address threats from pests and diseases, including threats to specialty crop pollinators
- Efforts to improve production efficiency, handling and processing, productivity, and profitability over the long term (including specialty crop policy and marketing)
- New innovations and technology, including improved mechanization and technologies that delay or inhibit ripening
- Methods to prevent, detect, monitor, control, and respond to potential food safety hazards in the production efficiency, handling and processing of specialty crops.

The anticipated amount available for support of this program in FY 2018 is approximately \$48.1 million. The SCRI program will give priority to projects that are multistate, multi-institutional, or trans-disciplinary.

## Opportunities for Agroforestry Research

Specialty crops are defined in law as fruits and vegetables, tree nuts, dried fruits, and horticulture and nursery crops, including floriculture. Collectively, these crops face many challenges and the SCRI program seeks to address these challenges by funding systems-based, trans-disciplinary approaches. Agroforestry by design is a system-based approach that can be used to help address specialty crop challenges. SCRI has supported numerous research projects in the past that have advance the science and practical application of agroforestry.

## SCRI Agroforestry Project Examples

Year	Recipient	Grant
2012	Michigan State University	<b>Developing Sustainable Pollination Strategies for U.S. Specialty Crops</b>  This goal of this project is to estimate the value of native bees and honey bees for U.S. specialty crops, identify farming practices that affect bee abundance and pollination levels, evaluate habitat management practices including hedgerows for enhancing bees and crop pollination, and test alternative species as managed pollinators.
2011	University of Minnesota	<b>Developing Native and Native-European Hybrid Hazelnut Germplasm and Agronomics for the Upper Midwest</b>  The goal of this long-term project is to develop a viable bush-type hazelnut industry in the Upper Midwest, based on native <i>Corylus americana</i> and hybrids between <i>C. americana</i> and the European hazelnut, <i>C. avellana</i> , for the purpose of diversifying agriculture to enhance ecological and economic sustainability.

### SCRI Grant Details

The intent of the SCRI program is to address the needs of the various specialty crop industries through the promotion of collaboration, open communication, the exchange of information, and the development of resources that accelerate application of scientific discovery and technology. The philosophy of the SCRI program is that truly effective, long-term solutions to specialty crop industry challenges can best be achieved by understanding and treating those problems as complex systems of many interacting components. This perspective requires projects that are larger in scope and complexity, and that demand more resources than have traditionally been allocated to individual research and extension projects.

#### *Who is eligible?*

Applications may be submitted by Federal agencies, national laboratories, colleges and universities, research institutions and organizations, private organizations or corporations, State Agricultural Experiment Stations, Cooperative Extension Services, individuals, or groups consisting of two or more of these entities.

*Learn more about SCRI Grants at:*

<https://nifa.usda.gov/funding-opportunity/specialty-crop-research-initiative-scri>

## Natural Resources Conservation Service (NRCS)

NRCS works with farmers, ranchers, and non-industrial private forest landowners across the country to help them boost agricultural productivity and protect our natural resources through conservation. NRCS provides America's farmers, ranchers, and forest landowners with financial and technical assistance to voluntarily put conservation on the ground, not only helping the environment but agricultural operations too. NRCS' approach combines locally-led solutions with science and research; landowner stewardship; partnerships; and proven conservation practices to produce results for agriculture and the environment.

## External Grants Offered

### Conservation Innovation Grants (CIG)

Conservation Innovation Grants (CIG) are competitive grants intended to drive public and private sector innovation in resource conservation. Through the NRCS CIG program, public and private grantees develop the tools, technologies, and strategies to support next-generation conservation efforts on working lands and develop market-based solutions to resource challenges. The goal of CIG projects is to inspire creative problem-solving that boosts production on farms, ranches, and private forests - ultimately, they improve water quality, soil health, and wildlife habitat. NRCS understands the importance of supporting historically underserved, new and beginning, and military veteran producers in farming and ranching. Annually, a portion of CIG funding is set aside for projects that support these producers.

CIG grants are authorized by the 2002 Farm Bill, and grantees help leverage federal investment by at least matching it. CIG uses Environmental Quality Incentives Program (EQIP) funds to award competitive grants to non-Federal governmental or nongovernmental organizations, American Indian Tribes, or individuals. The NRCS plans to award more than \$22.6 million to 33 projects nationwide through its CIG program. The 2017 CIG awards bring the total NRCS investment to nearly \$286.7 million for 711 projects since 2004.

### Opportunities for Agroforestry Research

CIG does not typically fund research projects, except for on-farm conservation research. Researchers can, however, offer to collaborate on projects that encompass the development, evaluation, implementation, and monitoring of conservation adoption approaches or incentive systems; or conservation technologies, practices, systems, procedures, or approaches; or environmental soundness with goals of environmental protection and natural resource enhancement. CIG has supported many projects with agroforestry research as a component of the work over the years.

### National CIG Grant Agroforestry Project Examples

Year	Recipient	Grant
2016	Fresh Coast Capital	<b>Creating Working Landscapes from Former Urban Lands in Legacy Cities</b> In the city of Peoria, Illinois, Fresh Coast Capital proposes to pilot an innovative approach to financing green infrastructure through impact investing in agroforestry and vegetable farming. The project will serve as a model for expansion with privately funded impact investment capital throughout Peoria and into 40 or more cities facing both land vacancy and stormwater compliance challenges.
2014	The Pennsylvania State University	<b>Vegetative and Riparian Buffers for Environmental Stewardship and Renewable Fuels on Poultry Farms</b> This project will demonstrate and multiply the adoption of five conservation impacts of planting buffers and biomass on these modern commercial farms. Vegetative buffers can scrub exhaust fan emissions of odor, NH3 and particulate matter, reducing their impact on those working or living near the farm. Riparian buffers can filter nutrients, hormones and bacteria associated with runoff events from barn roofs, access roads and barn yards. Shade and windbreaks can reduce the solar load and winter winds drawing heat from the poultry barns for energy conservation. Biomass crops such as switch and Miscanthus grass, willows and poplar can be grown for bedding materials and the spent litter can be burned replacing fossil fuels utilized in brooding birds and heating animal facilities. Lastly, the screened and landscaped appearance of farms with visually pleasing trees and shrubs can improve the image of these modern high density animal enterprises at the urban-rural interface.



Year	Recipient	Grant
2010	Wild Farm Alliance	<p><b>Co-managing for Food Safety and Conservation Objectives in Specialty Crops: Preparing NRCS Conservationists and Technical Service Providers to Address New Challenges</b></p> <p>This project worked to strengthen the capacity of NRCS to assist specialty crop growers to integrate food safety requirements with resource conservation efforts. Conservation practices such as those that support pollinators, beneficial insects and birds all help to reduce pollination and pest control costs. Specialty crop growers in some states such as in California will continue to be able to meet water quality requirements with the use conservation practices, thereby avoiding fines for water pollution. Organic specialty crop growers will be able to continue to receive a premium since they will be able to comply with the requirements to conserve biodiversity and to maintain or improve their soil, water, wetlands, woodlands, and wildlife.</p>
2007	Hedgeapple Biotech	<p><b>Utilization of <i>Maclura Pomifera</i> (Osage Orange) as an Agroforestry Species for Bioenergy, Bioproduct and Carbon Sequestration</b></p> <p>This project evaluated multiple NRCS practices in reference to bioenergy, bioproducts, and carbon sequestration issues while providing ecological services including wildlife habitat. A special focus was on riparian management. In addition, they facilitated the beginning of a rural cooperative with development of biorefinery capability to take advantage of the significant value-added products inherent in this species.</p>
2006	Three Rivers RC&D	<p><b>Productive Conservation on Working Lands (PCWL) Demonstration Project</b></p> <p>RC&amp;D Councils in MN will finalize development of the PCWL program, create a working demonstration project of 1,000 acres of perennial crops with quantifiable results, create a technical handbook on hazelnut propagation and management, disseminate results to the State of MN and beyond and work to secure state and federal funding for adoption of a larger scale program.</p>

### State CIG Grant Agroforestry Project Examples

Year	Recipient	Grant
2013	Trees Forever Inc.	<p><b>Agroforestry in Iowa: Outreach to Landowners and Resource Professionals for Long Term Reductions in Nutrient Loading</b></p> <p>Trees Forever will work with partners to host a series of agroforestry workshops targeted to Iowa landowners and resource professionals. Workshops will introduce agroforestry as a strategy to reduce sedimentation and nutrient loading, support and empower participants to disseminate this knowledge to others in their local communities, and build a collaborative network of agroforestry ambassadors and practitioners throughout the state.</p>
2007	Big Island Resource Conservation and Development Council, Inc.	<p><b>Evaluation of Hawai'i Coffee Agroforestry Systems</b></p> <p>Protection of Soil and Water Resources, enhanced overall production from mixed-cropping, and expanded wildlife habitat and biodiversity.</p>

Year	Recipient	Grant
2006	Nebraska Indian Community College	<b>Innovative Conservation Through Value-Added Riparian Buffer Development</b> Establish value added riparian buffers and native prairie restoration on Omaha & Santee Nation Reservations. Involve community members geared toward native plants used for nutritional, spiritual and medicinal purposes. Identify and educate plants used for medicinal, spiritual & economics purposes.

### CIG Grant Details

There are two types of CIG grants: national and state. Projects are limited to the 50 States, the Caribbean Area (Puerto Rico and the Virgin Islands), and the Pacific Islands Area (only the state of Hawaii, Territory of Guam, Territory of American Samoa, and the Commonwealth of the Northern Mariana Islands), and the District of Columbia.

#### *National CIG Grants*

The National CIG funding notice is announced each year. Funds for single- or multi-year projects, not to exceed three years, are awarded through a nationwide competitive grants process. Projects may be watershed-based, regional, multi-state or nationwide in scope. The natural resource concerns eligible for funding through CIG are identified in the funding announcement and may change annually to focus on new and emerging, high priority natural resource concerns.

#### *State*

NRCS state CIG funding notices follow the National CIG announcement. State CIG components emphasize projects that benefit a limited geographical area. Participating states announce their funding availability for CIG competitions through their state NRCS offices. For additional information about State CIG competitions, please contact your State NRCS office or search for the latest postings.

#### *Who is eligible?*

State or local units of government, federally-recognized American Indian tribes, nongovernmental organizations, and individuals. Projects must involve producers who are eligible for the Environmental Quality Incentive Program (EQIP). NRCS also sets aside approximately 10% of funding to support historically underserved, new and beginning, and military veteran farmers and ranchers.

*Learn more about USDA NRCS Conservation Innovation Grants at:*

<https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/cig/>

## Agricultural Marketing Service (AMS)

The Agricultural Marketing Service (AMS) administers programs that create domestic and international marketing opportunities for U.S. producers of food, fiber, and specialty crops. AMS also provides the agriculture industry with valuable services to ensure the quality and availability of wholesome food for consumers across the country. AMS services and its millions of dollars in annual grant investments also create opportunities by supporting economic development in small towns and rural communities.

Much of the agency's support for agriculture is provided through commodity-specific efforts, such as its Dairy; Specialty Crops; Livestock, Poultry and Seed; and Cotton and Tobacco Programs. AMS also oversees the National Organic Program; Science and Technology Program; and the Transportation and Marketing Program. AMS also provides regulatory oversight for over 20 research and promotion programs, and enforces other Federal regulations such as the Perishable Agricultural Commodities Act (PACA) and the Seed Act.

## External Grants Offered

### Specialty Crop Block Grant

The purpose of the Specialty Crop Block Grant Program (SCBGP) is to solely enhance the competitiveness of specialty crops. Specialty crops are defined as “fruits, vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture).” Eligible plants must be cultivated or managed and used by people for food, medicinal purposes, and/or aesthetic gratification to be considered specialty crops. The 2014 Farm Bill, Section 10010, extended the SCBGP and authorized Commodity Credit Corporation funding at the following levels: \$72.5 million for FY 2014 through FY 2017 and \$85 million for FY 2018 and each fiscal year thereafter. The 2014 Farm Bill also included the addition of the Specialty Crop Multistate Program, with funding starting at \$1 million for FY 2014, increasing by \$1 million each year through FY 2018, so that by FY 2018, the funding would be \$5 million. Each state department of agriculture is eligible to receive an estimated base grant and an additional amount based on the average of the most recent available value and acreage of specialty crop production for that state. Awards are made for a grant period of up to three years in length.

### Opportunities for Agroforestry Research

Agroforestry practices, particularly forest farming and alley cropping, create unique micro-climates and conditions to grow crops that require conditions not afforded in the more common large open fields. Even though these systems have been used to grow all of the crops listed in the definition of specialty crops, there remain many questions regarding crop interactions, optimal conditions and sustainable production of many specialty crops. Specialty Crop Block Grant funds have supported many agroforestry research projects in the past.

### Specialty Crop Block Grant Program Project Examples

Year	Recipient	Grant
2017	The Pennsylvania State University	<b>Phytochemistry and Economic Importance of Ramps as a Specialty Crop</b> This project assembles an interdisciplinary team to conduct a multifaceted study of an emerging specialty agroforestry crop in Pennsylvania---ramps or wild leek ( <i>Allium tricoccum</i> ). For the past decade, ramps have continued to grow in popularity as a wild food delicacy and seasonal food item. Despite the growth in popularity, there has been very little research conducted on key aspects of this specialty crop including trade volumes, market preferences and pricing, buyer/consumer predilections, and the basic chemical and nutritional composition of this niche food item. We propose a baseline study to examine all of these aspects of ramps as a specialty crop in Pennsylvania, and to identify further areas for future research and extension.
2014	Institute for Sustainable Living, Art & Natural Design (ISLAND)	<b>Specialty Crop Education in Hops, Soil Fertility for Fruit and Vegetable Crops, and Agroforestry Systems</b> The Michigan Department of Agriculture and Rural Development partnered with the Institute for Sustainable Living, Art & Natural Design (ISLAND) to educate farmers about hops production, agroforestry and soil fertility by hosting conferences to increase awareness.

Year	Recipient	Grant
2012	College of Agriculture Family Sciences and Technology, Fort State University (Georgia Dept. of Agriculture)	<b>Establishing Advanced Technology and Innovative Horticultural Practices for Ecofriendly and Sustainable Production of Stevia in Georgia</b> Fort Valley State University developed systems for profitable stevia production in Georgia by intercropping it between fruit and tree nut crops and monitoring the success of direct seeding versus transplanting and other management practices to optimize the sweetness produced.
2011	South Dakota State University	<b>Demonstrating the Feasibility of Maple Syrup Production in South Dakota</b> South Dakota State University was awarded a grant from the South Dakota Department of Agriculture to demonstrate the feasibility of maple syrup production in existing windbreaks and native woodlands. The grant also supported agroforestry education for approximately 30 rural landowners, inspiring at least 5 to begin commercial production within the first 3 years.

### Specialty Crop Block Grant Details

The Specialty Crop Block Grant Program (SCBGP) is administered through the agency, commission, or department responsible for agriculture within any of the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the U.S. Virgin Islands, and the Commonwealth of the Northern Mariana Islands.

Who is eligible?

Requirements vary for each state department of agriculture. Organizations or individuals interested in the SCBGP should contact their state department of agriculture for more information.

*Learn more about Specialty Crop Block Grants at:*

<https://www.ams.usda.gov/services/grants/scbgp>

### Federal-State Marketing Improvement Grant

The Federal-State Marketing Improvement Program (FSMIP) funds new market opportunities for U.S. food and agricultural products, and encourage research and innovation aimed at improving the efficiency and performance of the U.S. agricultural marketing system. FSMIP funds a wide range of applied research projects that address barriers, challenges, and opportunities in marketing, transporting, and distributing U.S. food and agricultural products domestically and internationally. Approximately \$1 million is available each fiscal year, subject to Congressional action, as authorized by section 204(b) of the Agricultural Marketing Act of 1946, (7 U.S.C. 1621-1627).

### Opportunities for Agroforestry Research

FSMIP allows proposals pertaining to forest products, and processed or manufactured products derived from such commodities. Reflecting the growing diversity of U.S. agriculture, FSMIP accepts proposals dealing with nutraceuticals, bioenergy, compost, agroforestry products, and products made from agricultural residue.

Proposals may address topics dealing with any level of the marketing chain including direct, wholesale, and retail. Proposals must have a strong marketing focus, must involve research, and the primary beneficiaries must be agricultural producers and agribusinesses. Proposals that involve training or education programs must include a research component that tests the effects of the program on the marketing goals.

Proposals may involve small, medium or large scale agricultural entities but must benefit multiple producers or agribusinesses. Proposals that benefit one business or individual will not be considered. Proposals that address issues of importance at the State, multi-State, or national level are appropriate for FSMIP.

FSMIP will consider unique proposals on a smaller scale that may serve as pilot projects or case studies useful as models for others. Such proposals must include an objective to analyze opportunities and formulate recommendations with regard to how the project could be scaled up or expanded to other regions.

### Federal-State Marketing Improvement Program Eligibility

All applicants must be located within the 50 United States, the District of Columbia, American Samoa, Guam, the Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, the Commonwealth of Puerto Rico, or the U.S. Virgin Islands to be considered eligible.

Who is eligible?

State departments of agriculture, state agricultural experiment stations, and other appropriate State agencies (i.e., State universities, State colleges, or State governmental entities) are eligible.

Learn more about the FSMIP at: <https://www.ams.usda.gov/services/grants/fsmip>

## U.S. Forest Service and the Agricultural Research Service

Both the U.S. Forest Service and Agricultural Research Service (ARS) carry out research on agroforestry; however, neither agency offers external grant programs. The research direction of ARS is determined by the Office of National Programs as well as through Congressional appropriations for projects. Currently, ARS does not have a programmatic emphasis on agroforestry, but ARS does have a number of on-going research projects related to agroforestry.

The U.S. Forest Service supports agroforestry research through the efforts of the National Agroforestry Center, as well as a few scientists located at its research stations around the country. The National Agroforestry Center accelerates the application of agroforestry through a national network of partners. The Center conducts research, develops technologies and tools, and carries out a wide range of science delivery activities related to agroforestry. However, it does not have a program through which it offers external grants for research.

## Projects with Multiple Funding Sources

If you are eligible for more than one grant opportunity listed above, you may consider applying for multiple funding sources, depending on your research funding needs. Using multiple funding sources may be necessary for agroforestry research projects due to the long-term characteristics of agroforestry systems. See the Request for Applications (RFA) for each opportunity to determine your eligibility and deadlines for submitting applications for funding.

Things that may improve your chances of being awarded funding from multiple grants include:

- Number of cooperators/partners involved in the project
- High potential impact of project results
- Past success with funding, publication and reporting of results
- Matching funds

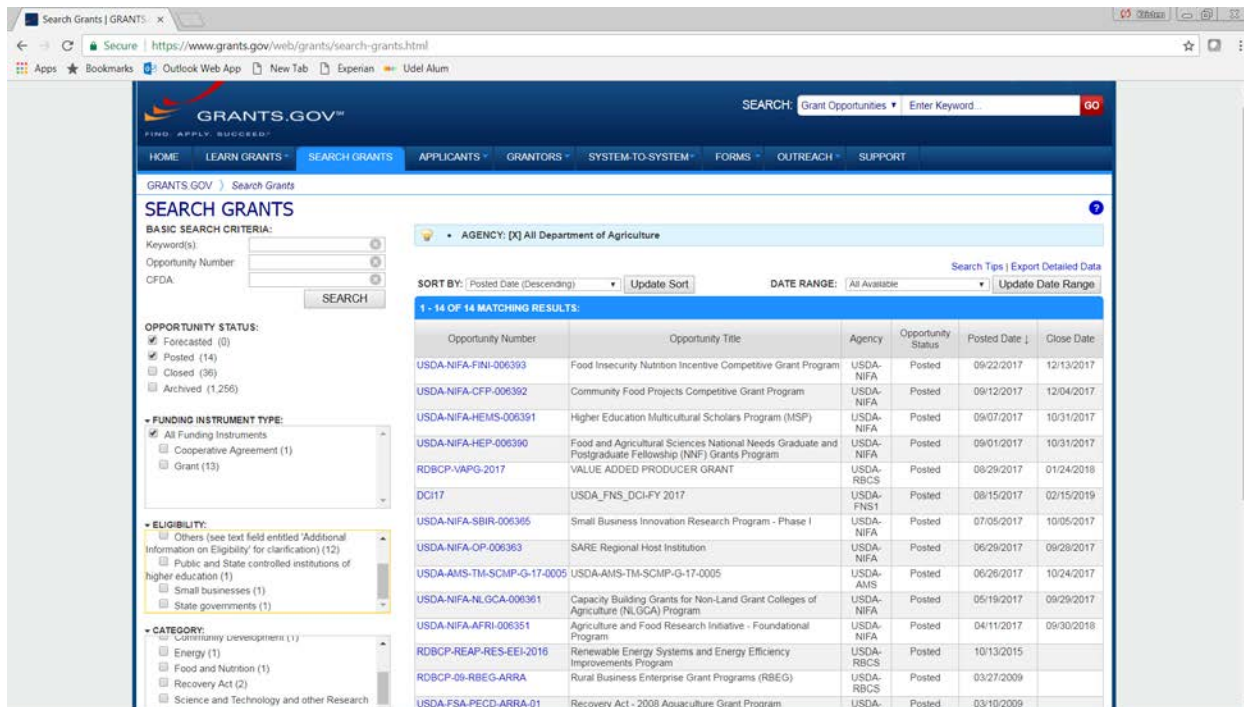


## Examples of Projects with Multiple Funding Sources

Year	Recipient	Grant
2013	Kerr Center, Louisiana State University, Appalachian State University, the National Center for Appropriate Technology	<p><b>Silvopasture With Ruminants and Free-Range Poultry (ARS funds, NIFA Southern SARE Research and Education grant 2010–13)</b></p> <p>ARS scientists in Boonville and Fayetteville partnered with the Kerr Center, Louisiana State University, Appalachian State University, the National Center for Appropriate Technology, and farmer cooperators to determine the impacts of grazing poultry under shade and feeding tree fodder. In agroforestry systems, woody perennials cannot only be used for shade/shelter/roosts but also represent a feed resource in terms of berries, fruit, nuts, and green leaves. Thus, these scientists have planted plots with native woody beautyberry (<i>Callicarpa Americana</i>). They are also doing on-farm trials.</p>
2012	Iowa State, NAC, and the Leopold Center	<p><b>Shelterbelts To Sequester Carbon and Create Bioenergy (ARS funds 2011, NIFA North Central Region SARE Research and Education grant 2012)</b></p> <p>ARS scientists in collaboration with scientists from Iowa State, NAC, and the Leopold Center are measuring (1) the soil carbon sequestration and (2) the bioenergy potential of tree plantings on marginal soils across climatic gradients in the U.S. Great Plains and Russian Central Uplands (ARS funds 2011). In addition, ARS scientists are convening focus groups and conducting surveys to determine the economic point at which the owners of marginal land will adopt these woody biomass systems. Other methods will be used to determine the most relevant tree species and soils.</p>
2012	River Hills Elderberry Producers	<p><b>Elderberry in Missouri (AMS–Specialty Crop Block Grant, NIFA AFRI grant funding 2012)</b></p> <p>The River Hills Elderberry Producers are developing marketing plans, investigating distribution and supply chain options, and facilitating a comprehensive elderberry workshop for elderberry producers. Meanwhile, the University of Missouri is planning to host the first international elderberry symposium (June 10–13, 2013) in Missouri.</p>
2012	University of California-Berkeley	<p><b>Hedgerows and Pollinators (NIFA Hatch, AFRI grants)</b></p> <p>Researchers at University of California-Berkeley used NIFA Hatch funds to study the ecology of wild crop pollinators on farms and wildlands. They found that areas with hedgerows tend to have more bees/natural enemies and fewer pests, that bees tended to travel into fields from hedgerows, and that native bees were more attracted to the native restoration plantings than the invasive species. More recently, this team was awarded an Agricultural and Food Research Initiative grant to study how hedgerow restoration can provide nesting habitat for native bees to improve pollination services to crops.</p>

## Appendix A: Links to USDA Agroforestry Grant Project Databases

Users can go to [Grants.gov](https://www.grants.gov) and search for federal grant opportunities. One can select USDA to see the following USDA grant opportunities. Each grant selected has information on synopsis, version history, related documents, and grant package.



The screenshot shows the Grants.gov search results page. The search criteria are set to 'AGENCY: [X] All Department of Agriculture'. The results are sorted by 'Posted Date (Descending)' and show 14 matching results. The table below lists the first 14 results.

Opportunity Number	Opportunity Title	Agency	Opportunity Status	Posted Date	Close Date
USDA-NIFA-FIN-006393	Food Insecurity Nutrition Incentive Competitive Grant Program	USDA-NIFA	Posted	09/22/2017	12/13/2017
USDA-NIFA-CFP-006392	Community Food Projects Competitive Grant Program	USDA-NIFA	Posted	09/12/2017	12/04/2017
USDA-NIFA-HEMS-006391	Higher Education Multicultural Scholars Program (MSP)	USDA-NIFA	Posted	09/07/2017	10/31/2017
USDA-NIFA-HEP-006390	Food and Agricultural Sciences National Needs Graduate and Postgraduate Fellowship (NNF) Grants Program	USDA-NIFA	Posted	09/01/2017	10/31/2017
RDBCP-VAPG-2017	VALUE ADDED PRODUCER GRANT	USDA-RBCS	Posted	09/29/2017	01/24/2018
DCH17	USDA_FNS_DCHFY 2017	USDA-FNS1	Posted	08/15/2017	02/15/2019
USDA-NIFA-SBIR-006395	Small Business Innovation Research Program - Phase I	USDA-NIFA	Posted	07/05/2017	10/05/2017
USDA-NIFA-OP-006363	SARE Regional Host Institution	USDA-NIFA	Posted	06/29/2017	09/28/2017
USDA-AMS-TM-SCMP-G-17-0005	USDA-AMS-TM-SCMP-G-17-0005	USDA-AMS	Posted	06/26/2017	10/24/2017
USDA-NIFA-NL-GCA-006361	Capacity Building Grants for Non-Land Grant Colleges of Agriculture (NLGCA) Program	USDA-NIFA	Posted	05/19/2017	09/29/2017
USDA-NIFA-AFRI-006351	Agriculture and Food Research Initiative - Foundational Program	USDA-NIFA	Posted	04/11/2017	09/30/2018
RDBCP-REAP-RES-EEI-2016	Renewable Energy Systems and Energy Efficiency Improvements Program	USDA-RBCS	Posted	10/13/2015	
RDBCP-09-RBEG-ARRA	Rural Business Enterprise Grant Programs (RBEG)	USDA-RBCS	Posted	03/27/2009	
USDA-FSA-PECD-ARRA-01	Recovery Act - 2008 Aquaculture Grant Program	USDA-	Posted	03/10/2009	

### National Institute of Food and Agriculture (NIFA)

- Agriculture and Food Research Initiative (AFRI), Evans-Allen, Hatch, and McIntire Stennis grants can be searched in the [Current Research Information System \(CRIS\) database](#). The CRIS provides documentation and reporting for ongoing agricultural, food science, human nutrition, and forestry research, education and extension activities for the USDA with a focus on the NIFA grant programs. Projects are conducted or sponsored by USDA research agencies, state agricultural experiment stations, land-grant universities, other cooperating state institutions, and participants in NIFA-administered grant programs, including Small Business Innovation Research and Agriculture and Food Research Initiative. The Planning, Accountability, & Reporting Staff office of NIFA is responsible for maintaining CRIS.
- Sustainable Agriculture Research and Education (SARE): [Projects archive](#)
- Beginning Farmer and Rancher Development Program: [Spreadsheet of funded projects](#)
- Small Business Innovation Research Program (SBIR): [Award database](#)
  - The Award database is continually updated throughout the year. As a result, data for the given year is not complete until April of the following year. Annual Reports data is a snapshot of agency reported information for that year and hence might look different from the live data in the Awards Information charts.
- Specialty Crop Research Initiative (SCRI) [Spreadsheet of funded projects](#)

### Natural Resources Conservation Service (NRCS)

- Conservation Innovation Grants (CIG): [Project Search Tool](#)
  - There are two types of Conservation Innovation Grants. One is competed at the National level, and the other is competed at the State level. This page provides access to both, but defaults to projects that were competed at the National level. Enter one or more search terms in the fields below. Add more criteria to narrow results or fewer criteria to widen results. Leave search fields blank in order to return the most results.

Agricultural Marketing Service (AMS)

- Specialty Crop Block Grant: [SCBGP Awarded Grants](#)
  - PDFs for each year from 2006 to 2016 with descriptions of projects by state