

## What is SARE?

Since 1988, the Sustainable Agriculture Research & Education (SARE) program has been the go-to USDA grants and outreach program for farmers, ranchers, researchers and educators who want to develop innovations that improve farm profitability, protect water and land, and revitalize communities. To date, SARE has awarded over \$309 million to more than 7,408 initiatives.

### SARE is grassroots with far-reaching impact

Four regional councils of expert practitioners set priorities and make grants in every state and island protectorate.

### SARE communicates results

SARE shares project results by requiring grantees to conduct outreach and grower engagement; and by maintaining an online library of practical publications, grantee-produced information products and other educational materials.



[www.sare.org](http://www.sare.org)

## SARE: Advancing the Frontier of Sustainable Agriculture in...

# Pennsylvania

of broadcasting it, farmers can save up to 70 pounds of nitrogen per acre. They were also able to reduce herbicides in corn with banding and high-residue cultivation.

For more information, see [sare.org/projects](http://sare.org/projects), and search for project numbers [LNE09-291](#), [LNE13-329](#) and [LNE16-354](#).

## SARE in Pennsylvania

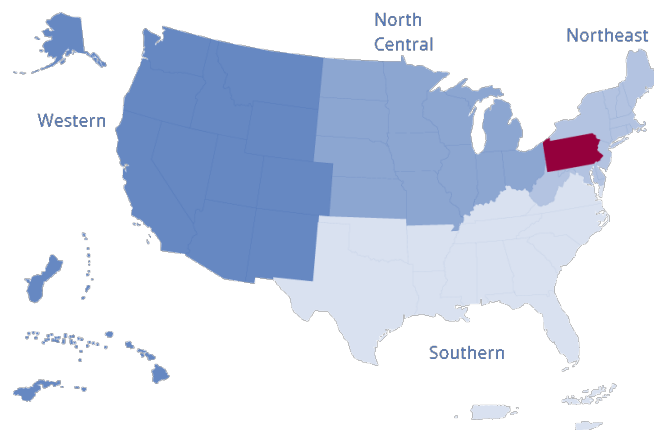
[northeast.sare.org/sare-in-your-state/pennsylvania](http://northeast.sare.org/sare-in-your-state/pennsylvania)

**\$13,477,610**  
in total funding

**310 grant projects**

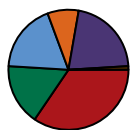
(since 1988)

For a complete list of grant projects state by state, go to [www.sare.org/state-summaries](http://www.sare.org/state-summaries)



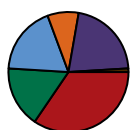
# SARE Grants in Pennsylvania

Total awards: 310 grants



107 Farmer/Rancher  
51 Graduate Student  
57 On Farm  
Research/Partnership  
26 Professional  
Development Program  
66 Research and Education  
3 Research Only

Total funding: \$13,477,610



\$714,082  
Farmer/Rancher  
\$736,502  
Graduate Student  
\$744,216  
On Farm  
Research/Partnership  
\$2,039,562  
Professional Development  
Program  
\$8,614,104  
Research and Education  
\$629,144  
Research Only

Find a complete list of projects on page 3.

# SARE's Impact



**53 percent**

of producers report using a new production technique after reading a SARE publication.

**79 percent**

of producers said they improved soil quality through their SARE project.

**64 percent**

of producers said their SARE project helped them achieve higher sales.

Learn about local impacts at:

[northeast.sare.org/sare-in-your-state/pennsylvania](http://northeast.sare.org/sare-in-your-state/pennsylvania)

## Contact Your SARE State Coordinator

SARE sustainable ag coordinators run state-level educational programs for Extension and other ag professionals, and many help grant applicants and recipients with planning and outreach. Visit [northeast.sare.org/state-pages/pennsylvania](http://northeast.sare.org/state-pages/pennsylvania) to learn more.

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For detailed information on SARE projects, go to  
[www.SARE.org](http://www.SARE.org)

SARE is funded by the USDA's National Institute of Food and Agriculture (NIFA).

This report includes summaries of competitive grant programs only. Some competitive grant programs that are no longer offered may be included or excluded from the totals in this report depending on the grant program and SARE region.



# AGRICULTURE PROJECTS FUNDED IN PENNSYLVANIA

by USDA's  
**Sustainable Agriculture Research and Education (SARE) Program**

Pennsylvania has been awarded \$13,618,633 grants to support 314 projects, including but not limited to, 61 research and/or education projects, 26 professional development projects and 107 producer-led projects. Pennsylvania has also received additional SARE support through multi-state projects.

## RESEARCH AND EDUCATION GRANTS

<b>Project #</b>	<b>Project Title</b>	<b>SARE Support</b>	<b>Project Leaders</b>
LNE20-398	Empowering Farmers to Comply with Food Safety Modernization Act (FSMA) Preventive Controls for Human Foods (PCHF)	\$162,545	Lisa Hall Zielinski The University of Scranton Small Business Development Center
LNE20-404	Environmental constraints and management responses for interseeding cover crops in Northeast grain rotations	\$199,674	Dr. John Wallace Penn State University
LNE19-380	Biological Control Options for Fly Control in Poultry Facilities	\$224,003	Dr. Erika Machtinger Pennsylvania State University
LNE19-378	Sensor-Based Precision Irrigation Systems for Tree Fruit and Vegetable Crops	\$199,936	Long He Pennsylvania State University
LNE18-367	Carbon Gaps, Nitrogen Bulges, and Phosphorus Imbalances: In Search of Sustainable Soil Organic Matter Management	\$199,956	Dr. Charles White Plant Science Department, Penn State
LNE17-356	Optimizing yield, milling quality, and disease management in spelt and other heritage grain production in the mid-Atlantic	\$57,281	Alyssa Collins Penn State Southeast Agricultural Research & Extension Center
LNE16-349	Development of resources for small raw-milk cheesemakers to conduct science-based risk assessments	\$131,271	Dr. Kerry Kaylegian Penn State University
LNE16-352	Forage brassicas to mitigate methane emissions and increase economic sustainability of forage-based dairy systems	\$192,009	Dr. Kathy Soder USDA-ARS
LNE14-330	Reducing parasite resistance on equine operations using a comprehensive, whole-farm approach	\$146,873	Donna Foulk Penn State Extension Dr. Ann Swinker Penn State University
LNE14-331	Getting the most out of cover crops: How timing of termination influences soil health, pest control, and improved crop production	\$222,694	Dr. Heather Karsten The Pennsylvania State University
LNE13-329	Sustainable cropping systems for dairy farmers in the Northeast, II	\$400,000	Dr. Heather Karsten The Pennsylvania State University
LNE12-320	Using cultivar mixtures to improve pest control and grain crop production	\$164,919	Dr. John Tooker Penn State

LNE12-321	Education and decision support strategy for farm-level economic and environmental assessment of dairy Best Management Practices	\$162,327	Dr.R Weaver Penn State Univ
LNE10-295	Reducing plastic mulch use by expanding adoption of cover-crop-based no-till systems for vegetable producers	\$144,962	Stacy Glackin Rodale Institute Alison Grantham Rodale Institute Sandra Wayman Rodale Institute
LNE10-303	Development and implementation of an equine environmental stewardship program	\$135,000	Dr.Ann Swinker Penn State University
LNE09-286	Improving the efficiency of nitrogen use and reducing ammonia emissions from Pennsylvania dairies	\$179,940	Dr.Alexander Hristov Pennsylvania State University
LNE09-288	Non-chemical control of wood boring insects affecting apple and peach	\$103,022	Dr.Greg Krawczyk PSU, Department of Entomology, FREC
LNE09-291	Sustainable cropping systems for dairy farms in the Northeastern US	\$400,000	Dr.Heather Karsten The Pennsylvania State University
LNE08-276	On-Farm Training and Participatory Learning: Biologically-based IPM an sustainable Farming Practices for Amish and Mennonite Vegetable Growers	\$143,991	Cathy Thomas Pennsylvania Department of Agriculture Wade Esbenshade PA Dept. of Ag
LNE08-268	Increasing Cropping System Sustainability through the Adoption of Cover Crop and Rotational No-Till Strategies	\$144,815	Rita Seidel Rodale Institute
LNE07-251	Enhancing cut flower production and marketing for produce growers: Methods of diversification into proven niches, part II	\$85,900	Steve Bogash Penn State Cooperative Extension
LNE07-258	Empowering dairy farmers to build a cottage industry	\$116,901	Allison Shauger Pennsylvania Association for Sustainable Agriculture Rebecca Robertson Pennsylvania Assn for Sustainable Agriculture
LNE06-236	Adoption of grass-fed beef management practices	\$58,594	Dr.John Comerford Penn state University
LNE06-239	Diversifying with Small Ruminants for Profitability	\$85,340	Allison Shauger Pennsylvania Association for Sustainable Agriculture
LNE06-244	Integrated cover crop innovations for biologically based no-till	\$118,310	Stacy Glackin Rodale Institute Jeff Moyer The Rodale Institute
LNE06-247	Teaching farmers to make biodiesel fuel from waste vegetable oil	\$46,476	Matt Steiman Wilson College
LNE06-248	Pennsylvania Regional Organic Fruit Industry Transition	\$99,208	Dr.Greg Krawczyk PSU, Department of Entomology, FREC James Travis Penn State University Fruit Research and Extension

LNE05-216	Using cover crops and crop diversity to optimize ecologically based weed management	\$98,732	Willaim Curran Penn State University
LNE05-219	Farm to chef: Increasing farmer and chef capacity for marketing and purchasing agricultural products in western Pennsylvania	\$96,571	David Eson PA Association for Sustainable Agriculture
LNE05-226	WAgN: Sustainable ag network by and for women producers	\$138,292	Carolyn Sachs Pennsylvania State University
LNE05-227	In search of sustainable Botrytis management: An extension and research effort	\$87,374	Elsa Sanchez Penn State University
LNE05-234	Focus on organic dairy: An integrated program for Pennsylvania producers	\$149,277	Leslie Zuck Pennsylvania Certified Organic
LNE04-196	Sustaining Northeast Farms for Future Generations	\$148,500	Marion Bowlan Pennsylvania Farm Link
LNE04-209	Pennsylvania Food Education to Increase Consumption of Locally Grown Food	\$61,863	Karima Rose The Food Trust
LNE04-212	Winter Harvest: Teaching a successful local food model from urban Philadelphia	\$35,756	Brian Snyder Pennsylvania Assoc. for Sustainable Agriculture
LNE04-195	Enhancing Cut Flower Production and Marketing for Produce Growers: Methods of Diversification Into Proven Niches	\$73,241	Steve Bogash Penn State Cooperative Extension
LNE03-176	Greenhouse IPM for the Amish and Mennonite community of Lancaster County	\$56,890	David Bingaman Pennsylvania Department of Agriculture
LNE03-179	On-farm production of mycorrhizal fungus inocula	\$129,849	David Douds, Jr. USDA/ARS Eastern Regional Research Center
LNE03-181	Compost Tea for Disease Management in Horticultural Crops	\$147,956	Paul Hepperly The Rodale Institute
LNE03-188	Sustainable parasitic mite control for honeybees	\$134,710	Nancy Ostiguy Pennsylvania State University
LNE03-191	Youth voices in agriculture	\$49,007	Maria van Hekken The Food Trust
LNE02-164	Biological Control Practices for High-Tunnel Crop Production	\$125,314	Michael Orzolek Pennsylvania State University
LNE02-174	Low-Income Community Markets Initiative	\$133,813	Duane Perry The Food Trust
LNE02-159	Use of Horticultural Oils for Mite Management in Fruit Orchards	\$39,281	Dr.Greg Krawczyk PSU, Department of Entomology, FREC
LNE01-150	Use of Composts in Grapes for Improving Vine Health & Soils	\$149,732	James Travis Penn State University Fruit Research and Extension

LNE00-134	Promoting Sustainable & Locally Grown Farm Products: Creating a Model Partnership to Increase Farmer Access to New Market Opportunities	\$159,253	Donna Pitz The Food Trust
LNE98-099	Creating a Farmers-Owned Value-Added Production/Processing Facility for Dairy Farmers in Central PA; A Joint Farmer/Community R&D Project	\$40,000	Jill Abrahamson Union Co. Planning Department Bill Deitrick Union Co. Conservation District Joe Detelj Union Co. Chamber of Commerce Nancy Roberts DePoe Penn State Extension
LNE96-072	Sustaining Grape Production in the Northeast through Farm-tested Information Technologies	\$147,943	James Travis Penn State University Fruit Research and Extension
LNE96-077	Sea Change Urban Horticulture Center: Sustainable Agriculture Initiatives	\$156,500	Rosalind Johnson Sea Change Inc.
LNE96-078	Seed Saving and Biodiversity in the Northeastern United States	\$20,000	Carolyn Sachs Pennsylvania State University
LNE96-070	Enhancement of Sustainable Pest Management Techniques through Utilization of Banker Plants and Colored Mulches in Commercial Greenhouses	\$144,774	Michael Orzolek Pennsylvania State University
LNE93-037	Integrating Stewardship Forestry into Total Farm Management	\$48,408	James Finley Pennsylvania State University
LNE93-038	Biodiversity Education through the Pennsylvania Forest Stewardship Program	\$23,508	James Finley Pennsylvania State University
LNE92-032	A Living Laboratory/Classroom for the Integration of Research and Education Efforts on Alternative Vegetable Production Systems	\$128,400	Michael Dann Penn State University
LNE90-021	Honeybee Breeding for Tracheal Mite Resistance in the Northeastern United States	\$40,000	Bruce A. McPheron Penn State University
LNE90-022	Novel Rotation Crops as Alternatives to Fumigant Nematicide Treatment in Deciduous Tree Fruit Production	\$58,745	John Halbrendt Penn State University, Fruit Research Laboratory
LNE89-016	Evaluation of Alternative Strategies for Small Fruit Production	\$521,768	Barbara L. Goulart Pennsylvania State University
LNE88-001	Development of a Sustainable Apple Production System for the Northeast (ANE92-16)	\$635,700	Terry Schettini Rodale Institute
LNE88-007	Weed Control in Reduced Tillage Cropping Systems: Use of Overseeded Cover Crops	\$127,000	Dr. Rhonda Janke Kansas State University
LNE88-008	Implementation of Electronic Decision Support Technology for Apple Production	\$110,000	Edwin Rajotte Penn State
LNE88-011	Taking Charge: Strategies for Sustainable Agriculture in the Northeast (Video Presentations)	\$70,000	James O. Morgan Rodale

**RESEARCH ONLY GRANTS**

<b>Project #</b>	<b>Project Title</b>	<b>SARE Support</b>	<b>Project Leaders</b>
LNE20-405R	Silvopasture Pilot Project, Lancaster County	\$88,563	Molly Cheatum Chesapeake Bay Foundation
LNE19-389R	Adapting Chinese Morel Cultivation Strategies for Farmers in the Northeast	\$140,581	John Pecchia Pennsylvania State University
LNE16-354R	Advanced sustainable cropping systems for dairy farms in the Northeast	\$400,000	Dr.Heather Karsten The Pennsylvania State University

#### **PROFESSIONAL DEVELOPMENT PROGRAM GRANTS**

<b>Project #</b>	<b>Project Title</b>	<b>SARE Support</b>	<b>Project Leaders</b>
ENE16-145	Training a network of educators for outreach on reduced-tillage organic feed and forage systems	\$66,570	Leslie Zuck Pennsylvania Certified Organic
ENE15-134	NE Advanced Agroforestry Training for Natural Resource and Agricultural Educators	\$96,444	Susan Richards Capital RC&D Tracey Coulter PA DCNR Bureau of Forestry
ENE15-136	The impact of corn silage harvesting and feeding decisions on income over feed costs	\$48,873	Virginia Ishler Penn State University
ENE15-139	Creating a Sense of Belonging for Hispanic Farmers in Extension Programming	\$54,432	Elsa Sanchez Penn State University
ENE13-128	Farm Energy IQ Training Program	\$145,000	Edward Johnstonbaugh Penn State Extension
ENE12-124	Tools for Teams: Improving the success of dairy farm teams to benefit farm performance	\$96,133	Lisa Holden Penn State
ENE12-125	Enhancing Cooperative Extension capacity to support the advancement of adding value and direct marketing by farmers in the Northeast	\$161,960	Winifred McGee Penn State Extension
ENE10-114	Reading the Farm: Discovering whole-farm interactions	\$32,734	Mary Barbercheck PSU Dept. of Entomology
ENE09-113	Preparing small and mid-size growers of fruits and vegetables for on-farm food safety certification	\$162,119	Dr.Joan Thomson Penn State University
ENE07-104	Whole farm nutrient planning for organic farms	\$96,756	Elsa Sanchez Penn State University
ENE06-100	Developing labor management expertise among agricultural advisors	\$117,070	Lisa Holden Penn State
ENE05-089	Soil quality workshop: Concepts and practices	\$43,659	Mary Barbercheck PSU Dept. of Entomology
ENE03-076	An educational program for training extension professionals and vocational agriculture teachers on high-tunnel technology	\$79,154	William Lamont Pennsylvania State University



ENE02-066	Teaching the Entrepreneurial Process	\$28,704	John Berry PSU, Cooperative Extension, Lehigh County
ENE02-072	Strengthening Community Engagement in Sustainable Local Food Systems	\$99,483	Dr. Joan Thomson Penn State University
ENE02-073	Direct Marketing for Increasing Farm Profitability: Training for Trainers Project	\$53,813	Maria van Hekken The Food Trust
ENE00-055	Establishing a Demonstration & Electronic Media Training Center for Farmer-Educators in Pasture-Based Livestock Production	\$77,579	Dr. John Comerford Penn state University
ENE00-058	Organic Grains Cropping Systems & Marketing: In-Service Education	\$95,005	Bill Liebhardt The Rodale Institute
ENE98-040	Diagnostic Team Approach to Enhancing Dairy Farm Sustainability, Phase II	\$50,000	C. William Heald The Pennsylvania State University
ENE96-016	A Diagnostic Team Approach to Enhancing Dairy Farm Sustainability	\$34,650	Lisa Holden Penn State
ENE96-021	Regionally Based Professional Development Program for Grazing Systems Management	\$92,149	Lawrence Muller Dept. of Dairy & Animal Science, Pennsylvania State University
ENE96-025	Cooperating for Sustainability and Adding Value: A Training Program on Cooperatives and Value Added Marketing for USDA Staff in the Northeast	\$100,000	Tim Bowser Pennsylvania Association for Sustainable Agriculture
ENE96-026	Management and Evaluation of Soil Health: Inservice Education for the Mid-Atlantic Region	\$60,000	Laurie Drinkwater Rodale Institute
ENE95-010	Education of Extension Workers in Sustainable Agriculture Practices Utilizing the PASA Conference and Farm Visits	\$35,000	James Travis Penn State University Fruit Research and Extension
ENE95-011	On-farm Research & Extension Education Program	\$90,373	Phil Rzewnicki Pennsylvania State University Cooperative Extension
ENE94-004	Education of Pennsylvania Extension Workers in Sustainable Agriculture Practices	\$21,902	James Travis Penn State University Fruit Research and Extension

#### FARMER/RANCHER GRANTS

Project #	Project Title	SARE Support	Project Leaders
FNE20-969	On-Farm demonstration and evaluation on the use of landscape fabric in mixed produce and cut flower production.	\$14,976	Sabine Carey Full Circle Farms
FNE20-956	Using A Kreger Farms Invented Interseeder To Profitably Plant Cover Crops Into Varying Corn Growth Stages.	\$7,859	Heidi Kreger Kreger Farms
FNE19-945	Farmer-Built Grain Pearling Machine	\$14,748	Nigel Tudor Weatherbury Farm



FNE18-886	PA Queen Project and the HHBBC Field Test Mite-Biting Behavior using Backyard Scientists	\$15,000	Jeffrey Berta Always Summer Herbs
FNE18-896	Aggregation and Cooperative Marketing Opportunities for Enhancing Chestnut ( <i>Castanea spp.</i> ) Production and Conservation	\$13,180	Erik Hagan Windswept Agroforestry Farm
FNE18-911	Evaluation of Pasture Dragging as Non-Chemical Control Method for Filth Fly Pests of Pastured Beef Cattle	\$14,059	Matt Steiman Dickinson College Farm
FNE17-863	Mite-biting behavior in feral swarms: The Pennsylvania Queen Improvement Project	\$15,000	Jeffrey Berta Always Summer Herbs
FNE17-865	Single-producer-scale preparation of warm-season grass for poultry bedding	\$13,555	Will Brandau Wood Crest Farm
FNE17-878	Advanced cultivation tools for walk-behind tractors	\$7,944	Mark Nuneviller Nuneviller Farms
FNE17-881	Growing Verona grapes organically in Pennsylvania	\$14,832	Randall Rice Mountain View Vineyard
FNE16-836	Pennsylvania queen bee program and Heartland Honey Bee Breeders Cooperative: Mite-biting behavior and overwintering success	\$14,999	Jeffrey Berta Always Summer Herbs
FNE16-837	Kale leaf nutrient density response to various mulches	\$15,000	Gregory Boulos Blackberry Meadows Farm
FNE16-839	Mid-Atlantic malting barley improvement	\$14,987	Mark Brault Deer Creek Malthouse
FNE16-841	Organic production methods for Belgian endive: Boosting small organic farmers' winter income	\$12,357	James Eisenstein Jade Family Farm
FNE15-819	Pennsylvania queen bee improvement program and the Heartland Honey Bee Breeders Coop: Testing for mite-biting behavior	\$14,999	Jeffrey Berta Always Summer Herbs
FNE15-830	Developing a criteria to select colostrum samples of poor quality	\$4,644	Sarah Hazelton Hazel-Rod Farm
FNE15-834	The implementation of barrier strip cropping to mitigate bird damage on organic oilseed sunflowers	\$15,000	Dr.Samuel Yoder, VMD Green Alchemy
FNE14-794	Will Nozevit make a difference in the health of a honeybee colony?	\$15,000	Craig Cella Craig A. Cella
FNE14-804	Controlling grape root borer with pheromones	\$14,802	R. Martin Keen Landey Vineyards
FNE13-771	Pennsylvania queen bee improvement program: Sharing the best	\$15,000	Jeffrey Berta Always Summer Herbs

FNE13-787	Experimental hybrid top bar hive	\$14,998	Anaiis Salles Green Sanctuary Earth Institute of Pennsylvania
FNE12-737	Queen bee improvement program: Another step forward	\$14,999	Jeffrey Berta Always Summer Herbs
FNE12-749	Development of a low-cost vertical patternator, part II	\$6,940	R. Martin Keen Landey Vineyards
FNE12-752	Alternative honey bee nutrition: Beyond sugar syrup	\$14,888	Dr.Petrusia Kotlar Paslawsky Linden Hill Farm and Apiary
FNE11-734	The Use of Plumbagin as an Organic Anthelmintic Against H.contortus in Sheep	\$14,916	Dr.Samuel Yoder, VMD Green Alchemy
FNE11-705	Queen Bee Improvement Program- Building on the Foundation of Pennsylvania Survivor Stock	\$14,984	Jeffrey Berta Always Summer Herbs
FNE11-706	Feasibility of Shift Trellis Use for Northeastern Blackberry Production	\$3,318	Roy Brubaker Village Acres
FNE11-707	Using new frames and foundation as a way to control disease in Honeybee Hives	\$15,000	Craig Cella Craig A. Cella
FNE11-719	Establishment of Miscanthus (Miscanthus x giganteus) as an Alternate Bedding Supply	\$7,350	Steven Harnish Central Manor Dairy
FNE11-730	Evaluation of 12 Yellow Flesh Peach Cultivars for Organic Production in the Northeast	\$14,536	Jim Travis Fruit Farmer
FNE11-732	Dynamic Attachment Frame System	\$14,900	Eric Vander Hyde Barefoot Gardens
FNE10-689	Development of a Low Cost Vertical Patternator	\$5,818	R. Martin Keen Landey Vineyards
FNE10-702	Comparison of Incorporated and Non-Incorporated Cover Cropping with an Organic Sunflower Fuel Project	\$11,694	Dr.Samuel Yoder, VMD Green Alchemy
FNE10-681	Honey Bee Hive Equipment Sterilization	\$15,000	Craig Cella Craig A. Cella
FNE09-658	Evaluating New, Extra-Hardy Grape Cultivars in Vermont	\$4,919	Steve Groff Cedar Meadow Farm
FNE09-667	Planting Small Seeded Vegetable Crops into a High Residue, Reduced Tillage Environment	\$6,491	Neil Myerov Myerov Family Farm
FNE08-634	Rotational grazing as a tool for Christmas tree producers	\$3,966	Jeremy Freymoyer
FNE08-636	Grafting tomatoes in multi-bay high tunnels as a way to overcome soil-borne diseases	\$5,992	Steve Groff Cedar Meadow Farm

FNE08-639	Control of grape root borer	\$3,182	R. Martin Keen Landey Vineyards
FNE08-650	Farmer-built compost turner with hydraulic drive	\$9,472	Nigel Tudor Weatherbury Farm
FNE08-652	The viability of growing and grazing high-sugar rye grass in southwestern Pennsylvania	\$5,215	George Wherry
FNE08-625	Evaluation of southern peas as cash cover crop in Pennsylvania	\$5,399	Michael Byers Demeter's Garden
FNE08-626	Honeybees: To overwinter or not	\$7,500	Craig Cella Craig A. Cella
FNE07-601	Selecting better honeybees for the Northeast	\$7,965	Craig Cella Craig A. Cella
FNE07-607	Rotational grazing as a management tool for Christmas tree producers	\$4,663	Jeremy Freymoyer
FNE07-610	Control of grape root borer	\$2,719	R. Martin Keen Landey Vineyards
FNE07-611	No-till seeding of cover crops into standing soybeans	\$558	Edward Kuckuck
FNE06-581	Composting bedded pack barn	\$9,975	Cory Miles Helluvahill Farm
FNE06-583	Energy-efficient short-term cold storage for vegetables and herbs	\$7,276	Linda Moist Clan Stewart Farm
FNE06-567	How to make beekeeping more sustainable	\$6,369	Craig Cella Craig A. Cella
FNE06-575	Field trials to evaluate the benefits of biofumigation as part of a potato cropping system in the Northeast	\$8,079	Glenn Hetherington
FNE06-576	Control of grape root borer	\$2,589	R. Martin Keen Landey Vineyards
FNE05-550	Control of grape root borer	\$2,892	R. Martin Keen Landey Vineyards
FNE04-504	Beekeeping: More Honey with less Chemicals	\$10,000	Craig Cella Craig A. Cella
FNE04-520	Control of Grape Root Borer	\$2,227	R. Martin Keen Landey Vineyards
FNE03-498	Growing Native Ginseng for Conservation and Profit	\$6,786	David Thompson

FNE03-450	Think Globally, Eat Locally	\$3,273	Katheryn Andersen Charlestown Cooperative Farm
FNE03-500	Continuation of an On-Farm Comparison of Fertility Treatments on One Sweet Corn Variety Planted and Harvested at Two Different Times During the Season.	\$1,960	Brooks Way Way Fruit Farm
FNE03-458	Using Sorghum Sudan Grass and Mega Millet for Summer Grazing Sheep	\$2,110	Roger Coulter Willowmoor Farm
FNE03-471	Control of Grape Root Borer	\$3,031	R. Martin Keen Landey Vineyards
FNE03-481	Food for Thought	\$3,375	Brian Moyer Green Haven Farm
FNE03-486	Effects of Vermicompost Applied in a High Tunnel	\$3,912	Claire Orner Quiet Creek Herb Farm
FNE03-488	Study of More Cost Effective Ways of Crop Production	\$3,595	Jason Pontius KJ Farm
FNE03-496	Comparison of Trellis-Grown Cucumbers and Tomatoes Versus Free-Standing Plants on Three Types of Mulch, With and Without Intercropping for Disease Severity and Yield	\$4,970	Kristie Schwartz
FNE02-446	An On-Farm Comparison of Fertility Treatments on One Sweet Corn Variety Planted & Harvested at Two Different Times During the Season	\$3,813	Brooks Way Way Fruit Farm
FNE02-404	Construction and Use of Cover Crop Roller for Organic No-Till	\$6,275	John Brubaker
FNE02-407	Use of Parasitic Wasp ( <i>Trichogramma ostrinae</i> ) for Bio-Control of European Corn Borer ( <i>Ostrinia nubilalis</i> ) in Sweet Corn	\$2,705	Jame Crawford
FNE02-411	Developing Sustainable Management Systems for Native Pollinators	\$3,343	Maryann Frazier Singing Creek Farm
FNE02-442	Using a Winter Cover Crop of Rye and Hairy Vetch for Soil Conservation and Weed Control in a Mixed Vegetable System	\$2,096	Matt Steiman Wilson College
FNE01-359	Design & Preparation of Raised Beds for Year-Round Vegetable Production in Urban Agriculture	\$4,214	Mat Brener Greensgrow Farm
FNE01-378	Eighth Annual Groff Farm Field Day	\$7,340	Steve Groff Cedar Meadow Farm
FNE01-394	The Use of Corn Gluten Meal for Weed Control In Vineyards	\$792	Dominic Strohle
FNE00-306	Establishment of cover crops in corn and soybeans.	\$461	J. Robert Huntsberger

FNE00-352	Research, development, and marketing of value-added pork products.	\$9,254	Barbara Wiand
FNE00-307	Hardy kiwi pollination and production	\$7,060	David Jackson
FNE00-310	Pasture Aeration.	\$600	Larry Lemmon
FNE00-312	Establishing alfalfa in existing pasture.	\$1,320	Jeff Mamett
FNE00-313	Comparing soil nutrient levels to seasonal weather fluctuations, part II.	\$3,300	Klass and Mary Howel Martens
FNE00-318	Pasture illumination.	\$780	Richard Stahl
FNE00-320	Slow-release natural/organic fertilizers in nursery crop production, part II.	\$660	Richard Tregidgo
FNE00-301	The control of pest pressure on cabbages using predator habitats.	\$7,948	David Fogarty-Harnish
FNE00-338	2000 "Farming for the Future" field day.	\$3,900	Steve Groff Cedar Meadow Farm
FNE99-259	Mobile Shade Rack	\$1,226	Kirk Kreger
FNE99-273	Improving Soil Micronutrients	\$2,028	Bob Russo
FNE99-275	Promoting Summer Lettuce/Mesclun Growth and Preventing Deer Damage with Shadecloth	\$511	Judy Smeltzer
FNE99-281	Slow Release Natural/Organic Fertilizers in Nursery Crop Production	\$1,590	Richard Tregidgo
FNE99-233	Evaluation of Forage Soybeans	\$745	Tim Brown
FNE99-238	Spring Hydroseeding of Switchgrass on Winter Wheat	\$1,830	Franklin Chow
FNE99-248	Pastured Poultry Products	\$3,660	Barb Gorski
FNE99-250	Economic and Environmental Impact of No-Till Processing Tomatoes vs. Conventional Processing Tomatoes	\$1,950	Steve Groff Cedar Meadow Farm
FNE98-193	Farmers Marketing Strategy for Westmoreland City	\$6,300	Paul Sarver

FNE98-206	Low-input Sustainable Dairy Farming Through Draft Horse Power	\$1,825	Dennis Trainor
FNE98-221	Effect of Compost Teas in Controlling Late Blight Damage to Tomatoes in Pennsylvania	\$500	Donald Kretschmann
FNE97-170	Comparison of Weed control and Soil Erosion Control in 15" row Corn vs 30" row Corn	\$1,495	Steve Groff Cedar Meadow Farm
FNE96-120	Minimizing Equipment Costs on a Grazing Farm	\$2,683	Marion Bowlan
FNE96-128	Economic Comparison & Weed Control Observation of 15" Row Corn vs. 30" Row Corn	\$1,040	Steve Groff Cedar Meadow Farm
FNE96-146	Alternative Rotation System for Vegetables	\$2,960	Allen G. Matthews Farmer's Alternative Resource and Market Cooperative (FARM Coop)
FNE95-113	Quick Protein	\$2,610	Jim Weaver
FNE94-057	Evaluation of Water Retaining Soil Amendment, Cropping Systems and an Alternative Labor Source for Vegetable Production	\$5,087	Mike Kotz
FNE94-075	The Evaluation and Demonstration of the Ability of Garden-Mate(tm) to Afford Adequate Herbicidal Activity in Sweet Corn at Reduced Rates of Atrazine and Metolochlor	\$782	Harry Zimmerman Cinnamon Hill Farm
FNE94-076	Early Winter Strawberry Production	\$1,943	Harry Zimmerman Cinnamon Hill Farm
FNE93-036	Reactions of Peracetic Acid to Botrytis cinerea	\$1,830	James Perkins 7 Springs Farm
FNE93-015	Evaluation of a Biocontrol Method for Farm Fly Management	\$2,155	Diane Mathews-Gehringer 4 Springs Farm
FNE93-016	Stewardship Forestry on the Farm	\$3,890	George W. Freeman
FNE93-025	Fiber-producing goats as an alternative to chemical weed and brush control in pasture reclamation and management	\$5,000	Ellen Reker
FNE93-027	A Wetland Demonstration Project for Water Quality Improvement, Wildlife Habitat Creation, and Farmer Education	\$5,000	Derek & B.C. Dickson
FNE93-033	Evaluation of Integrated and Biological Pest & Disease Controls in Orchards	\$1,839	Dwight Mickey

#### GRADUATE STUDENT GRANTS

Project #	Project Title	SARE Support	Project Leaders
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GNE19-225	Development of a Robotic Pruning System for Sustainable Apple Production	\$15,000	Long He Pennsylvania State University Azlan Zahid Penn State
GNE19-216	Assessing the Effects of Neonicotinoid Treatments on Pumpkin on Bee Visitation and Pathogen Transmission	\$11,435	Dr.Margarita Lopez-Uribe Penn State University Ginamaria Roman-Echevarria Pennsylvania State University
GNE19-195	Purification and Testing of Corn-based Biopesticide	\$15,000	Dr.Surinder Chopra Penn State Univ Debamalya Chatterjee The Pennsylvania State University
GNE19-199	Development of Microbial Communities to Suppress Tomato Foliar Pathogens	\$15,000	Kevin Hockett The Pennsylvania State University Hanareia Ehau-Taumaunu Pennsylvannia State University
GNE19-202	Mitigation of Heat Stress in Dairy Cattle by Dietary Supplementation of Octanoic Acid	\$15,000	Dr.Chad Dechow The Pennsylvania State University Longfei Han Penn State University
GNE19-214	Defining Mechanisms Underlying Mite Tolerance and Honey Bee Survival	\$14,998	Dr.Christina Grozinger Penn State Allyson Ray The Pennsylvania State University
GNE19-215	Using Protective Cultures to Control Listeria monocytogenes in Microbiomes from Small-Scale Dairy Production Facilities	\$14,940	Jasna Kovac The Pennsylvania State University Maria Laura Rolon The Pennsylvania State University
GNE19-222	Optimization of Greenhouse Crop Pollination through Artificial Homeostatic Control of Bumblebee Hive Temperature	\$13,931	Rudolf Schilder Hannah Stewart Penn State University
GNE18-174	Sexuality and Sustainable Agriculture: Examining Queer Farmers' Quality of Life in Pennsylvania	\$14,997	Dr.Kathleen Sexsmith Penn State University Michaela Hoffelmeyer Penn State Rural Sociology M.S. Program
GNE18-176	Ultrasensitive and On-field Detection of a Plant Virus by a Nanotube-filtering Device and Isothermal Amplification	\$14,937	Dr.Cristina Rosa Penn State Juan Francisco Iturralde Martinez The Pennsylvania State University
GNE18-180	Combining Infection Sources, Periods, and Persistence into the Integrated Management of Bitter Rot on Apples	\$14,992	Kari Peter Pennsylvania State University Phillip Martin The Pennsylvania State University
GNE18-186	Symbiotic Nitrogen Fixation in Non-legumes: N-supply, Yield and Quality Effects in Tomato and Pepper	\$14,850	Dr.Sjoerd Duiker Penn State University Ryan Sebring Pennsylvania State University
GNE18-164	Assessing the Impact of Organic Farming Practices on Building Drought Resistant Soil	\$14,346	Alain Plante University of Pennsylvania Abdelrahman Alfahham University of Pennsylvania
GNE18-189	Exploring Disease Pressure in Response to Climate Change	\$14,993	Dr.Cristina Rosa Penn State Joseph Walls, III The Pennsylvania State University Md Tariqul Islam The Pennsylvania State University
GNE18-165	Harnessing Forage Mixtures to Increase Ecosystem Services of Arthropod Predators and Weed Suppression	\$14,987	Dr.John Tooker Penn State Julie Baniszewski Pennsylvania State University



GNE18-190	Sustainable Urban Agriculture in Pennsylvania: Assessing Best Practices for Historically Marginalized Farmers	\$14,970	Dr.Kathryn Brasier Pennsylvania State University Hannah Whitley The Pennsylvania State University
GNE18-168	How Does 40 Years of No-till Affect Soil Microbial Nitrogen Dynamics	\$14,964	Mary Ann Bruns The Pennsylvania State University Mara Cloutier Pennsylvania State University
GNE18-173	Native Perennial Grasses in Multifunctional Riparian Buffers for Improving Water Quality and Farm Profitability	\$14,991	Dr.Thomas Richard Penn State University Steph Herbstritt The Pennsylvania State University
GNE17-147	UV-blocking plastics for sustainable control of Spotted Wing Drosophila in ever-bearing raspberries in high tunnels	\$14,705	Richard Marini PennState Maria Cramer The Pennsylvania State University
GNE17-155	A root-centric view of root-microbe interactions in apple replant disease	\$15,000	Dr.David Eissenstat Penn State Emily Lavelly The Pennsylvania State University
GNE17-142	Designing farms that support wild bees	\$15,000	Dr.Christina Grozinger Penn State Melanie Kammerer Allen Penn State University
GNE17-144	To be Host or not to be: Finding Sustainable Management through Endophyte Interactions	\$15,000	Dr.Maria del Mar Jimenez-Gasco The Pennsylvania State University Laura del Sol Bautista Jalon The Pennsylvania State University
GNE16-118	Understanding the epidemiology of pathogens within bee communities in Pennsylvania	\$14,969	Dr.Heather Hines The Pennsylvania State University Briana Ezray The Pennsylvania State University
GNE16-138	Targeting sustainable soil management practices using crop modeling in soybean systems.	\$14,984	Dr.Gregory Roth Penn State University Armen Kemanian Pennsylvania State University Jack Watson Pennsylvania State University Giovani Stefani Fae Penn State University
GNE16-122	Interseeded cover crops: Evaluating nitrogen retention services provided by plant-microbe relationships	\$14,998	Dr.Jason Kaye Pennsylvania State University Sarah Isbell The Pennsylvania State University
GNE16-140	Assessing the impact of energy-related landowner coalitions on the sustainability of Pennsylvania farming communities	\$14,845	Dr.Kathryn Brasier Pennsylvania State University Grace Wildermuth The Pennsylvania State University
GNE16-127	Renewable alternative bedding for commercial broiler chicken production	\$14,258	Dr.Paul Patterson Penn State University Dr.Michael Hulet Penn State University Dr.Jude Liu Penn State University Amy Barkley Cornell Cooperative Extension
GNE16-131	Macroarthropod decomposers in field crops: Influence on residue breakdown and response to prophylactic insecticides	\$15,000	Dr.John Tooker Penn State Kirsten Pearsons The Pennsylvania State University
GNE16-133	Undercover agent: Uncovering the effects of cover crops on a beneficial soil fungus	\$14,569	Mary Barbercheck PSU Dept. of Entomology Brianna Flonc The Pennsylvania State University

GNE16-134	Impacts of cover crops and tillage on predator-prey interactions within organic cropping systems	\$14,635	Mary Barbercheck PSU Dept. of Entomology Karly Regan Pennsylvania State University
GNE16-120	Evaluating brown mid-rib (BMR) dwarf pearl millet as a forage for lactating dairy cows	\$14,885	Dr.Alexander Hristov Pennsylvania State University Dr.Michael Harper Milk Specialties Global
GNE16-135	Plant probiotics? Understanding how soil health practices influence plant-insect interactions	\$15,000	Dr.John Tooker Penn State Elizabeth Rowen Pennsylvania State University
GNE16-119	Do cover crops stabilize wine grape productivity in a variable climate?	\$14,999	Dr.Michela Centinari Penn State University Dr.David Eissenstat Penn State Suzanne Fleishman The Pennsylvania State University Department of Plant Science
GNE16-137	Effects of yield regulation practices on grapevine productivity, health, and economic sustainability	\$14,864	Dr.Michela Centinari Penn State University Maria Smith Ohio State
GNE15-093	Boosting plant defenses using silicon fertilization	\$14,993	Gary Felton Penn State University Dr.Flor Acevedo Penn State University
GNE15-100	Winter is coming: Improving overwintering survival of honey bee colonies in Pennsylvania	\$14,940	Dr.Christina Grozinger Penn State Dr.Mehmet Ali Doke Pennsylvania State University
GNE15-105	Local and regional food systems, soil phosphorus, and resilience in a northeastern regional farmers' market network	\$14,796	Dr.Karl Zimmerer Penn State Russell Hedberg Penn State
GNE14-081	The role of cover crop diversity on key generalist predator attraction and pest suppression	\$14,996	Mary Barbercheck PSU Dept. of Entomology Jermaine Hinds Pennsylvania State University
GNE14-090	Development of pheromonal tools for honeybee breeding	\$14,998	Dr.Thomas Baker Pennsylvania State University Dr.Christina Grozinger Penn State Gabriel Villar Pennsylvania State University
GNE13-059	Root cortical aerenchyma in maize hybrids in Pennsylvania and interaction with mycorrhiza and soil-borne pathogens	\$14,999	Kathleen Brown The Pennsylvania State University Dr.Jonathan Lynch The Pennsylvania State University Dr.Gregory Roth Penn State University Tania Galindo Pennsylvania State University
GNE13-060	Soil health and soil management decision-making in the mid-Atlantic.	\$14,959	Carolyn Sachs Pennsylvania State University Jennifer Hayden Penn State University
GNE12-037	The role of cover crops as a floral resource for native bee conservation in agroecosystems	\$14,929	Mary Barbercheck PSU Dept. of Entomology Katherine Ellis Penn State University

GNE12-042	A Comparative Assessment of Land Link Programs in the Northeast Region	\$9,984	Clare Hinrichs The Pennsylvania State University Leslie Pillen Pennsylvania State University
GNE12-044	Predator-prey interactions in a high residue, reduced tillage agroecosystem	\$14,234	Mary Barbercheck PSU Dept. of Entomology Ariel Rivers Pennsylvania State University
GNE12-050	The human cost of food: Sustaining farm labor using alternative labor practices on diversified farms in Pennsylvania	\$4,042	Carolyn Sachs Pennsylvania State University Kathleen Wood The Pennsylvania State University Kathleen Wood Penn State University
GNE11-017	Cover crop cocktails: Harnessing diversity to enhance nitrogen retention in agroecosystems	\$14,998	Dr. Jason Kaye Pennsylvania State University Denise Finney Penn State University
GNE11-028	Bumble bee nest density in diversified farms to ensure pollination services	\$14,964	Dr. Shelby Fleischer Penn State Chanpreet Sidhu The Pennsylvania State University
GNE11-014	Striving for sustainable pest management in no-till, field-crop systems: Understanding the role of insecticidal seed treatments	\$14,494	Dr. John Tooker Penn State Maggie Douglas Pennsylvania State University, Dept. of Entomology
GNE10-002	Evaluating Normande, U.S. Purebreds, and Normande Crossbreds on Production, Reproductive Performance, Survivability, and Partitioning of Energy During Periods of High and Low Pasture Availability	\$13,955	Dr. Chad Dechow The Pennsylvania State University Dustin Brown The Pennsylvania State University
GNE10-006	Exploiting plant genotypic diversity for sustainable insect pest management	\$13,179	Dr. John Tooker Penn State Ian Grettenberger Pennsylvania State University
GNE10-009	Self-regulating weed control through the enhancement of beneficial ground dwelling invertebrates	\$15,000	Dr. John Tooker Penn State Dr. Tomas Carlo Penn State University Dr. Shelby Fleischer Penn State Dr. Robert Gallagher Penn State University Dr. Timothy Leslie Long Island University - Brooklyn Jeffrey Law Pennsylvania State University

#### ON FARM RESEARCH/PARTNERSHIP GRANTS

Project #	Project Title	SARE Support	Project Leaders
ONE19-339	Planting Green Strategies for Maximizing Corn Emergence	\$29,526	Zachary Larson Penn State Extension
ONE19-340	Maximizing Pollination Services for Blueberry Production in Pennsylvania	\$29,990	Dr. Margarita Lopez-Urbe Penn State University
ONE19-346	Producing Quality Poultry Bedding with a Trailer Mounted System	\$29,993	Wesley Ramsey Penn Soil RC&D Council

ONE19-352	Does Artificial Feed Impact Health and Survival of Honey Bee Colonies?	\$22,695	Dr.Robyn Underwood Penn State University
ONE18-320	Developing Markets for Warm Season Grass within the Pennsylvania Farm Community	\$14,993	Michael Palko Biomass Renewable Energy LLC
ONE18-309	Small-Scale Production Possibilities for Peanuts in Pennsylvania	\$3,516	Sarah Bay Nawa Tuscarora Organic Growers Cooperative
ONE18-319	Effects of Unimproved Equine Manure Stacking on Soil and Groundwater Nutrients at Sites with Seasonally High Water	\$14,795	Rachel Onuska Bucks County Conservation District
ONE17-307	Crediting cover crops and soil organic matter in a variable rate nitrogen fertilizer prescription	\$14,832	Dr.Charles White Plant Science Department, Penn State
ONE17-308	Evaluating the use of low-input technology for small-scale, no-till organic farming systems	\$14,990	Dr.Gladis Zinati Rodale Institute
ONE17-294	Community benchmarks for productivity and profitability for diversified pastured livestock farmers	\$14,326	Dr.Franklin Egan Pennsylvania Association for Sustainable Agriculture
ONE16-260	Investigating bat activity in various agricultural landscapes to develop organic insect pest management	\$14,938	Kate Harms Rodale Institute
ONE16-278	Organic weed management using chemically and microbially designed compost extracts	\$14,728	Dr.Gladis Zinati Rodale Institute
ONE16-287c	Promoting cover crops on grain and vegetable farms in Pennsylvania	\$11,111	Dr.Sjoerd Duiker Penn State University
ONE16-257	New apple rootstocks' influence on mineral composition of leaves and fruit	\$14,562	Dr.Rob Crassweller Penn State University
ONE15-232	Increasing farmer participation in local government	\$14,999	Judy Chambers Penn State Extension Adams County
ONE15-239	Development of tools and procedures to improve the consistency of farmstead cheeses	\$14,999	Dr.Kerry Kaylegian Penn State University
ONE15-240	Using heat recovery ventilation systems in high tunnels to increase winter crop production	\$9,782	Chris Lent National Center for Appropriate Technology (NCAT)
ONE15-250	Developing an IPM program against slugs in mid-Atlantic no-till grain fields	\$12,714	Dr.John Tooker Penn State
ONE14-214	Market assessment for Northeast forest-grown mushrooms	\$14,564	Allen Matthews Chatham University
ONE14-224	Evaluating the feasibility, effectiveness and challenges of sprouted grains on grazing dairy farms	\$14,503	Dr.Kathy Soder USDA-ARS
ONE14-225	FARMDATA: An internet-based production record system for vegetable farm improvement	\$14,689	Matt Steiman Dickinson College Farm

ONE13-174	Evaluation of continuous suckling or ewe-rearing strategy by lamb producers	\$14,792	Marlon Knights West Virginia University
ONE13-178	Sustainable grass energy pellets for the Northeast	\$14,378	Dr.Daniel Ciolkosz Penn State Ag & Bio Engineerin
ONE13-186	Impact of using high-quality biological compost and compost extract on corn production, plant nutrient content, and soil quality	\$14,926	Dr.Elaine Ingham Rodale Institute Dr.Gladis Zinati Rodale Institute Stacy Glackin Rodale Institute
ONE13-189	Advancing on-farm understanding and application of silvopasture technologies in Pennsylvania	\$14,426	Susan Parry USDA-NRCS
ONE13-194	The adoption of an on-farm culture program by small- and medium-sized dairies in Pennsylvania to make proactive decisions	\$14,683	Andrea Tholen Penn State Extension-Mercer Amber Yutzy Penn State Extension
ONE12-160	Dairies Utilizing Mob Grazing in the Northeast	\$14,856	Mena Hautau Penn State Extension
ONE12-166	Creating a web-based tool to link farmers with institutional land-lease opportunities	\$15,000	Lisa Mosca Pennsylvania Horticultural Society
ONE12-172	Refining the potential for interseeding cover crops in corn	\$14,703	Dr.Gregory Roth Penn State University
ONE11-136	A Novel, Laborsaving Trellising System for Grape Tomatoes	\$14,980	Steve Bogash Penn State Cooperative Extension
ONE11-150	Native Bee Habitat Rehabilitation; Encouraging greater adoption of sustainable pollination practices - part III	\$14,934	Alexandru Surcica Penn State Cooperative Extension
ONE10-128	Assessing Bee Pollination Requirements in Pumpkin	\$14,405	Alexandru Surcica Penn State Cooperative Extension
ONE10-129	Native Bee Habitat Rehabilitation; Encouraging Greater Adoption of Sustainable Pollination Practices-Part II	\$14,254	Alexandru Surcica Penn State Cooperative Extension
ONE10-130	Maximizing natural enemy-provided control in no-till, field crop systems	\$10,008	Dr.John Tooker Penn State
ONE09-100	Developing an on-farm method to estimate DM loss in corn silage silos	\$9,572	Dr.Kenneth Griswold Kemin AgriFoods North America
ONE09-102	Cultural practices to improve fresh market onion quality and profitability	\$9,969	Christine Hoepting Cornell Cooperative Extension - Cornell Vegetable Program
ONE09-107	Native Bee habitat Rehabilitation; Encouraging greater adoption of sustainable pollination practices	\$9,894	Alexandru Surcica Penn State Cooperative Extension
ONE09-093	Advanced Trellis Methods and Mechanical Harvesting for Grape Tomatoes	\$9,815	Steve Bogash Penn State Cooperative Extension

ONE09-094	Improving Native Bee Pollination Part 2: Alternative Nest Boxes Building on the Lessons from the Field in 2008	\$9,203	Steve Bogash Penn State Cooperative Extension
ONE09-097	Rolled Down Cover Crop Mulch for Pumpkin and Soybean Production	\$6,857	S. Tianna DuPont Penn State
ONE08-079	Improving Pollination through bumblebee habitation; Evaluation of nest box types in bumblebee colonization	\$9,833	Steve Bogash Penn State Cooperative Extension
ONE08-083	Use of alternative row covers and pollinators to manage insect pests and improve cucurbit production and profitability	\$9,764	Michele Gauger Pennsylvania Association for Sustainable Agriculture
ONE07-075	Improving air quality and dairy profitability through reduced protein feeding	\$9,997	Eugene Schurman Penn State Cooperative Extension
ONE07-076	Tower-hive configuration for the maximization of honey yields and increased efficacy of easy drone brood removal	\$9,461	Dennis vanEngelsdorp University Maryland
ONE07-077	Promoting sustainable crop pollination by wild bees through farmer outreach and education	\$9,330	Neal Williams Bryn Mawr College
ONE07-068	Enterprise benchmarks for direct-to-consumer farm marketers	\$9,101	John Berry PSU, Cooperative Extension, Lehigh County
ONE05-034	Evaluating two-colony hives for increased productivity and varroa mite control	\$9,744	Maryann Frazier Penn State University
ONE05-035	Increased use of cover crops in field and vegetable crop rotations through farmer-directed on-farm research and outreach opportunities	\$9,859	Ronald Hoover The Pennsylvania State University Michele Gauger Pennsylvania Association for Sustainable Agriculture
ONE05-042	Assessment of regional organic alternative dairy management practices	\$9,225	Dr. Hubert Karreman Penn Dutch Cow Care
ONE04-019	Pastured Pork Marketing — Cultivating a Meat CSA for Wil-Den Family Farms	\$10,000	David Eson PA Association for Sustainable Agriculture
ONE04-022	Potato Leafhopper Resistant Alfalfa: The Potential for Improving Organic and Traditional Farming Systems	\$10,000	Marvin Hall Penn State University
ONE04-024	Selling Grass-Fed Beef to College Market	\$6,909	Heather House PASA
ONE04-029	Enhancing Dairy Profitability and Reducing Potential Water Pollution Through Lower Dairy Ration Phosphorus Levels	\$9,633	Eugene Schurman Penn State Cooperative Extension
ONE03-003	Development of attract-and-kill technology against the oriental fruit moth in Pennsylvania apple orchards	\$9,375	M. L. Evenden West Chester University

ONE03-006	Reducing herbicide usage, minimizing grazing down time, and improving pasture productivity with banded application of herbicide during pasture renovation	\$9,980	David Hartman Penn State University Ronald Hoover The Pennsylvania State University
ONE03-008	Developing a model for evaluating marketing expense for value-added products that can be used to more intelligently price core products	\$9,105	Drew Keegan Pennsylvania Preferred
ONE03-010	Sustainable agriculture and forestry demonstration project	\$10,000	Kimberlee Moninger Sustaining Greene County

#### SUSTAINABLE COMMUNITY INNOVATION GRANTS

Project #	Project Title	SARE Support	Project Leaders
CNE12-099	A How-To-Guide for the Urban, Micro-Agricultural Entrepreneur: For Aspiring Farmers in Low-income, urban, neighborhoods.	\$14,967	Laura Thornton Sustainable Urban Development, Inc.
CNE11-091	An Experience Economy Approach to Enhancing Chautauqua-Lake Erie Area Wine Tourism	\$15,000	Donna Quadri Iowa State University
CNE10-075	Lehigh Valley Composting Initiative	\$13,584	Rebecca Kennedy Lehigh County Conservation District
CNE10-076	PA Food for Profit On-Line Project	\$14,278	Winifred McGee Penn State Extension
CNE09-060	A mobile farmers' market for senior and WIC Farmers Market Nutrition Program beneficiaries	\$19,498	Schirlyn Kamara Threshold Foundation
CNE08-043	Addressing seasonality barriers in farm-to-college initiatives with winter storage vegetables	\$9,701	Emily Gunther Fair Food
CNE07-022	Promoting Pennsylvania cheese at farmers' markets	\$9,212	Patrick Gorman The Food Trust
CNE07-033	Regional food infrastructure network	\$25,000	Leah Smith PASA
CNE07-036	Pennsylvania Keystone Kitchens incubator project	\$19,783	Winifred McGee Penn State Extension

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**Total funding from the USDA SARE program to  
Pennsylvania  
\$13,618,633**

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For further information on projects, contact Deb Heleba, Northeast SARE communications specialist, at 802-651-8335, ext 552 or [debra.heleba@uvm.edu](mailto:debra.heleba@uvm.edu). Sustainable Agriculture Research and Education (SARE) is funded by USDA's National Institute of Food and Agriculture (NIFA).