

## 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 \$410 million to more than 8,827 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.



**Sustainable Agriculture  
Research & Education**

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

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

# Maryland

**Project Highlight: Maryland Extension Training: Solar Photovoltaic Options, Opportunities and Challenges**

A team of researchers and educators at the University of Maryland collaborated to create an in-depth training curriculum to help producers learn about the options, opportunities and challenges associated with on-farm solar power. Due to increasing energy costs and decreasing costs of solar technology, many farms in Maryland are considering solar electric installations to power their operations. However, only 7.25% of farms in Maryland currently have solar panels installed, with many agricultural communities lacking the knowledge, technical expertise and experience necessary to facilitate this demand for on-farm solar. To address these challenges, Dr. Drew Schiavone, an energy conservation and technology specialist at the University of Maryland, obtained a SARE grant to create an educational training initiative.

The project launched a series of four regional “train-the-trainer” workshops designed to provide Extension educators and other agricultural service providers with the technical skills, knowledge, attitude and awareness needed to conduct training programs. In conjunction with these workshops, the University of Maryland also created a catalog of videos that are a great resource for farmers or anyone else looking to install solar panels. The educational curriculum and associated workshops explore the basic principles of solar PV technology and its appropriate on-farm applications, and provide an overview of solar contracts and leasing options relevant to Maryland farmers. By expanding access to this type of training, more producers will be able to produce clean energy and increase the sustainability of their farms.

For more information on this project, see [sare.org/projects](http://sare.org/projects) and search for project number ENE20-165.

## SARE in Maryland

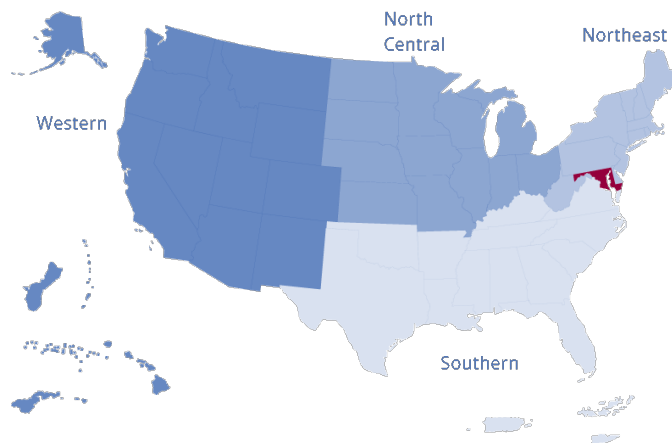
[northeast.sare.org/state-profiles/maryland/](http://northeast.sare.org/state-profiles/maryland/)

**\$3,188,208**  
**in total funding**

**45 grant project**

(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 in Maryland

## Grants awarded 2019-2024

Total awards: **45 grants**

- 12 Farmer/Rancher
- 7 Research and Education
- 3 Professional Development Program
- 4 On Farm Research/Partnership
- 13 Graduate Student
- 6 Research Only

Total funding: **\$3,188,208**

- \$221,681 Farmer/Rancher
- \$1,360,430 Research and Education
- \$358,870 Professional Development Program
- \$112,471 On Farm Research/Partnership
- \$193,347 Graduate Student
- \$941,409 Research Only

Find a complete list of projects on page 3.

## Farmer and rancher impacts 2019-2024

SARE grantees have reported the following impacts from their projects:

**8,061 farmers participated in a SARE-funded project**

**1,783 farmers reported a change in knowledge, awareness, skills or attitude**

**350 farmers changed a practice**



Learn about local impacts at:  
[northeast.sare.org/sare-in-your-state/maryland/](http://northeast.sare.org/sare-in-your-state/maryland/)

## 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-profiles/maryland/](http://northeast.sare.org/state-profiles/maryland/) 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 MARYLAND

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

Maryland has been awarded \$7,868,998 grants to support 168 projects, including but not limited to, 39 research and/or education projects, 11 professional development projects and 56 producer-led projects. Maryland has also received additional SARE support through multi-state projects.

## RESEARCH AND EDUCATION GRANTS

Project #	Project Title	SARE Support	Project Leaders
LNE23-467	Building Community and Capacity of Care Farms Benefiting People with Intellectual or Developmental Differences in the Northeast United States	\$257,753	Woody Woodroof Red Wiggler Community Farm Andrea Barnhart Red Wiggler Community Farm
LNE23-468	Acres4Change Stewardship Education and Training Program	\$134,483	Pertula George-Redd Acres4Change
LNE23-460	Aquaponic Systems, a Financially and Environmentally Sustainable Urban Farming Alternative in Maryland Taught Through Peer Learning Groups	\$183,663	Jose-Luis Izursa University of Maryland
LNE23-461	Sustaining Urban Farming: Teaching Apprentices to Think Like Farmers and Researching Urban Farmers' Income and Quality of Life	\$288,853	Margaret Morgan-Hubbard ECO City Farms
LNE22-443	Implementation of Improved Intestinal Parasite Management Practices on Maryland Livestock Farms	\$165,354	Dr.Amanda Grev University of Maryland
LNE21-419	Teaching Black Farmers in Baltimore City to Grow Ethnic Crops for Black Communities	\$252,248	Denzel Mitchell, Jr. Farm Alliance of Baltimore
LNE20-397	Implementing Rotational Grazing Practices on Livestock Operations in Maryland	\$78,076	Dr.Amanda Grev University of Maryland
LNE18-366	Optimization of Starter Nitrogen Fertilizer Application for Corn Planted into a Cereal Rye Cover Crop	\$199,790	Dr.Katherine Tully University of Maryland

LNE15-341	Quantifying and demonstrating scrubbing H2S from farm-based anaerobic digestion systems	\$216,879	Stephanie Lansing University of Maryland
LNE14-338	Deep soil nitrogen: A resource for sustainability in the mid-Atlantic using early cover crops	\$249,576	Dr.Ray Weil University of Maryland Dr.Sarah Hirsh University of Maryland
LNE11-312	No-till, No-herbicide Planting of Spring Vegetables Using Low Residue Winter Killed Cover Crops	\$154,405	Dr.Ray Weil University of Maryland Natalie Lounsbury University of New Hampshire
LNE08-274	Cover Crops for Sustainable Pest Management and Soil Quality in Production Nurseries	\$175,920	Dr.Paula Shrewsbury University of Maryland
LNE06-241	An integrated approach to developing a day neutral strawberry production industry	\$88,700	Willie Lantz University of Maryland Extension
LNE05-224	Increasing economic and environmental sustainability of aquaculture production systems through aquatic plant culture	\$159,309	Andrew Lazur University of Maryland Ctr. for Environmental Sci.
LNE05-232	High tannin grain sorghum as a possible natural anthelmintic for sheep and goats	\$100,000	Niki Whitley UMES - Maryland Cooperative Extension
LNE04-201	Optimizing Environmental Benefits From Riparian Buffers in Maryland	\$123,977	Galen P. Dively Department of Entomology
LNE04-206	Season Extension and Cultivar Evaluations for Increasing Farmer Profitability Using High Tunnels in the Baltimore/Washington Metropolitan Marketing Area	\$94,650	Mark Davis Future Harvest-CASA
LNE04-211	Mid-Atlantic Sheep - Goat Marketing Project	\$31,000	Susan Schoenian Maryland Cooperative Extension
LNE04-213	Environmental and Economic Effects of Management-Intensive Grazing on Dairy Farms &- Phase II	\$16,963	Dr.Ray Weil University of Maryland
LNE03-180	Optimization of cover crop strategies for pumpkin production in the mid-Atlantic	\$99,613	Caragh Fitzgerald Maryland Cooperative Extension Kathryne Everts University of Delaware, Dept. of Plant and Soil

LNE03-190	Small Ruminant Integrated Parasite Management (IPM)	\$49,830	Susan Schoenian Maryland Cooperative Extension
LNE03-192	Multipurpose Brassica cover crops for sustaining Northeast farmers	\$158,570	Dr.Ray Weil University of Maryland
LNE03-193	Sustainable pasture lamb production	\$147,495	Niki Whitley UMES - Maryland Cooperative Extension
LNE02-167	Enhancement, Implementation - Evaluation of Biologically Based Pest Management Tactic for Three Key Pests in Production Nurseries	\$138,636	Dr.Paula Shrewsbury University of Maryland
LNE01-145	Improving Sustainable Enterprise Selection - Marketing Skills through Business Skills Training	\$4,230	Ginger Myers Howard County Economic Development Authority
LNE01-152	Environmental - Economic Impacts of Management-Intensive Grazing on Dairy Farms	\$131,795	Dr.Ray Weil University of Maryland
LNE00-131	Development and Evaluation of Management Alternatives for Root Knot Nematodes and Volunteer Potatoes	\$128,900	Kathryne Everts University of Delaware, Dept. of Plant and Soil
LNE00-140	Microdairy: Creating a Profitable Five-Cow Dairy	\$168,590	Frank Kipe Old Springhouse Farm
LNE97-084	Design and Implementation of a Searchable Database on Compost Production and Use for Internet Users	\$20,000	Patricia D. Millner USDA-ARS
LNE96-069	Soil Test for Active Organic Matter: A Tool to Help Assess Soil Quality	\$100,000	Dr.Ray Weil University of Maryland
LNP96-004	A Sustainable Agriculture Project at Chesapeake Farms	\$6,300	Ray Forney Dupont
LNE95-052	Fescue Endophyte Research Study	\$9,632	Craig Hartsock Allegany Soil Conservation District
LNE95-055	Control of Gastrointestinal Nematodes in Dairy Cattle Under Intensive Rotational Grazing Management	\$45,000	Louis Gasbarre USDA-ARS

LNE95-061	Resource Conservation - Environmental Stewardship in the "Maryland Ag in the Classroom" Curriculum Guide	\$70,000	Richard R. Leader Chesapeake Audubon Society/Pickering Creek Environmental Center
LNE95-062	Managing Dairy Waste Using Constructed Wetlands - Composting	\$110,305	Leslie Cooperband University of Maryland
LNP92-001	On-farm Research, Demonstration and Education Project in Sustainable Agriculture: Remington Farms (was previously listed as LN92-032)	\$15,000	Raymond D. Forney Remington Farms
LNE91-027	An Integrated Response to Pollination-Related Problems Resulting from Parasitic Honey-Bee Mites, the Africanized Honey Bee, and honey-bee pathogens	\$100,000	Nicholas Calderone ARS Bee Research Laboratory
LNE89-013	Winter Cover Crops for Corn Production in the Northeast: N Balance and Soil Moisture Status	\$105,000	Morris Decker University of Maryland
LNE88-003	Role of Cereal Grain Cover Crops in Nitrogen Management for the Chesapeake Bay Region	\$150,000	Russell Brinfield University of Maryland

**RESEARCH ONLY GRANTS**

<b>Project #</b>	<b>Project Title</b>	<b>SARE Support</b>	<b>Project Leaders</b>
LNE23-481R	Optimizing spring cover crop management for productivity, soil health and climate resilience	\$249,267	Dr.Ray Weil University of Maryland
LNE23-474R	A Comparison of Forage Production, Livestock Performance, Soil Health, and Economics Between Perennial and Perennial/Annual Combination Forage Systems	\$99,899	Dr.Amanda Grev University of Maryland
LNE23-475R	Sustainability in Beekeeping: Improved Accuracy and Sensitivity of Sampling for the Honey Bee Parasite Varroa destructor	\$145,317	David Hawthorne University of Maryland
LNE20-406R	Creating an Ecofriendly Pest Suppression Program in Sweet Corn	\$100,371	Dr.Cerruti R. R. Hooks University of Maryland



<a href="#">LNE20-408R</a>	Managing Agricultural Drainage Ditches for Conservation Biological Control on the Delmarva Peninsula	\$197,728	William Lamp University of Maryland, College Park
<a href="#">LNE19-392R</a>	Improving Honey Bee Health and Crop Visitation during Pollination	\$148,827	Kirsten Traynor University of Maryland Dennis vanEngelsdorp University Maryland

**PROFESSIONAL DEVELOPMENT PROGRAM GRANTS**

<b>Project #</b>	<b>Project Title</b>	<b>SARE Support</b>	<b>Project Leaders</b>
<a href="#">ENE23-180</a>	Educational Support for Increasing the Acceptance of Federal Nutrition Benefits by Maryland Farmers	\$190,073	Megan Todd Agriculture Law Education Initiative
<a href="#">ENE20-160</a>	Farm Stress Management and Resources for Maryland Service Providers	\$96,645	Shannon Dill University of Maryland
<a href="#">ENE20-165</a>	Maryland Extension Training: Solar Photovoltaic Options, Opportunities and Challenges	\$72,152	Dr.Drew Schiavone University of Maryland
<a href="#">ENE18-151</a>	Agricultural Conservation Leasing Guide Education Series	\$159,380	Sarah Everhart University of Maryland Francis K. Carey School of Law
<a href="#">ENE16-144</a>	The Northeast Cover Crops Council: Building the network and online decision support tools	\$144,859	Dr.Katherine Tully University of Maryland
<a href="#">ENE98-038</a>	Organic Grain Production Another Way	\$90,100	John Hall University of Maryland
<a href="#">ENE98-044</a>	Locally Led Farmer Groups for Sustainable Agriculture: The Study Circle Approach	\$6,500	Jim Hanson Department of Ag Resource Economics
<a href="#">ENE98-046</a>	Conducting On-Farm Research: Enabling Farmers to Implement Sustainable Change in Agriculture	\$50,000	Kathryne Everts University of Delaware, Dept. of Plant and Soil
<a href="#">ENE97-033</a>	Riparian Buffer Training (Enhancement, Installation, and Management of Riparian Buffer Systems)	\$20,500	Robert Tjaden Univ. of MD Cooperative Ext. Service
<a href="#">ENE96-022</a>	Video Training on Improving Water Quality Featuring Farmers and Their Practices in the German Branch Watershed	\$24,351	Jim Hanson Department of Ag Resource Economics

ENE96-024	Training, Networking and Demonstrating Whole Farm Forage Grazing Systems	\$60,000	Elmer M. Dengler USDA -- NRCS
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**FARMER/RANCHER GRANTS**

<b>Project #</b>	<b>Project Title</b>	<b>SARE Support</b>	<b>Project Leaders</b>
FNE24-090	Maryland Land Ownership: Oral Histories Project	\$18,700	Nia Nyamweya Beauty Blooms LLC
FNE24-104	Using a High Tunnel to Increase Fig Tree Yield in Maryland and Conserving Local Fig Germplasm	\$29,945	Miaochan Zhi Thousand Springs Orchard cuimei xu johns hopkins university
FNE23-054	2023 Weed Suppression Study and Analysis	\$10,539	Elizabeth Lamb Lamb The Sixth Branch
FNE22-007	Determining the Effect of Tree Pruning and Nutritional Inputs on a Neglected Chestnut Orchard	\$29,975	Jane Dennison, Ph.D. Morris Orchard LLC
FNE22-020	Nature's Colors: Exploring the Production & Profitability of Natural Dyes in Baltimore	\$30,000	Kenya Miles Blue Light Junction
FNE22-031	Foliar Application of Kaolin Clay to Manage Pest and Diseases in Day Neutral Strawberry	\$22,247	Maria Velikonja Carniola Farms INC
FNE22-014	Improving Soil Tilt and Productivity with Mycorrhizal and Saprophytic Fungi	\$2,236	Matthew Harhai Goat Plum Tree Farm, LLC
FNE22-016	Ground Cherries: Improving Harvesting Efficiency and Defining Marketing Measures	\$5,557	Jenni Hoover Serenity Grove Farm
FNE22-021	For the Love of Legumes: Sustainable Urban Micro-Scale Grains and Dried Beans On a Demonstration Farm in Baltimore City	\$29,806	Denzel Mitchell, Jr. Farm Alliance of Baltimore
FNE21-991	Growing Dahlias for Cut Flower Production via Autopots and Aquaponics	\$14,518	Dr. Tom Precht Grateful Gardeners
FNE20-954	Composting Sheep Manure with Black Soldier Fly Larvae for Fly and Parasite Control	\$13,263	Andrew Keller Vista View Farms
FNE20-951	Managing Corn Earworm in Hemp Field by Using Sweet Corn as a Trap Crop	\$14,895	Kelly Edwards Wood Duck Landing Farm



FNE18-900	Use of Rate-of-Gain and Dry Lot to Maintain Parasite Anthelmintic Susceptibility in Bluefaced Leicester Maryland Lambs	\$13,658	Andrew Keller Vista View Farms
FNE17-875	Using real-time generated rate-of-gain to determine anthelmintic need in pastured Blue Faced Leicester Maryland lambs	\$9,104	Andrew Keller Vista View Farms
FNE16-843	Methods for improving quality and conditions of ground cherry production-part II	\$5,652	Lisa Garfield Calliope Farm
FNE15-828	Methods for improving quality and conditions of ground cherry production	\$6,889	Lisa Garfield Calliope Farm
FNE15-832	Exploring dryland rice production in the mid-Atlantic	\$11,405	Heinz Thomet Next Step Produce
FNE14-803	Effectiveness of Aerated Static Pile to Windrow Composting on Small-Scale Farms	\$6,237	Emma Jagoz Moon Valley Farm
FNE13-789	Exploring low-tech food dehydration to increase profits on small farms	\$14,915	Tanya Tolchin Jug Bay Market Garden
FNE12-768	Water Hyacinth Project	\$8,687	Larry Ward Ward Farms
FNE10-682	Big Flip Floats for Commercial Oyster Aquaculture	\$11,384	Christine Power Great Eastern Shellfish Company David Chamberlain Great Eastern Shellfish Company, LLC
FNE10-693	Economical Climate Control for extended Production in High Tunnel Vertical Growing Systems	\$7,651	Allen Lilly Ryan's Glade Farm
FNE08-630	Increasing profitability: Building consumer preference for chevon through education and outreach	\$10,000	Jeanne Dietz-Band Many Rocks Farm
FNE08-631	Testing Two Selection Assays- Efficacy for Varroa-mite-tolerant Bee Production	\$4,347	Adam Finkelstein VP Queen Bees
FNE08-647	Propagating day-neutral strawberry plugs for fall planting	\$3,395	Jim Strawser Brook View Farm

FNE07-620	Assess and quantify the benefit of alternative and renewable energy for greenhouse operations	\$8,800	John Shepley Emory Knoll Farms, Inc.
FNE06-594	Sustainable livestock farming: A promotional video and teaching tool	\$5,770	Robin Way Rumbleway Farm
FNE05-546	Using ultrasound scanning and performance testing technology to increase loineye area in lamb	\$5,785	John Hall Hall Suffolks
FNE04-517	Enhancing the Maryland Nursery Industry's Ability to Improve Water Quality and Increase Profit	\$9,900	Leslie Hunter-Cario Environmental Concern, Inc.
FNE04-532	Verifying New Sustainable Methods for Small Ruminant Parasite Control	\$3,300	Karen Taylor
FNE03-477	Farrow to Finish Premium Pastured Pork	\$1,555	Errol Mattox
FNE03-492	Raising Goats on Pasture Alone or with Grain Supplementation	\$2,907	Kurt Schuster
FNE03-497	Sustainable Methods for Small Ruminant Parasite Control	\$1,892	Karen Taylor
FNE02-402	Use of Corn Gluten Meal to Reduce Weeds in Beet Fields	\$2,356	David Barylski
FNE02-424	Effect of Straw, Leguminous and Non-Leguminous Cover Crops on Productivity and Weed Suppression in Organically Managed Asparagus Beds	\$864	Michael Klein
FNE02-426	Production of Strawberries in November and December	\$9,927	David Lankford
FNE02-427	Indoor Raspberry Production	\$7,633	Wayne Lockwood
FNE02-447	Determination of Omega-3 Fatty Acid in Pastured Raised Meat Rabbits	\$5,937	Robin Way Rumbleway Farm

FNE01-376	Maximizing Nitrogen - Phosphorus Efficiency in a Managed-Intensive-Grazing Dairy	\$4,481	Judy Gifford St. Brigid's Farm
FNE01-382	Effect of Wood Chip Mulch, Leguminous - Non-Leguminous Cover Crops on Productivity - Weed Suppression in Organically Managed Asparagus Beds	\$3,583	Michael Klein
FNE00-296	On-site demonstration for replacing broadcast herbicides with cultivation and banded herbicides in corn.	\$5,426	Roy Crow
FNE00-305	Wine grape production in Harford County: the use of canines as a deterrent to deer damage.	\$822	Robert Halman Ole 9 Vineyard
FNE00-311	The use of the predacious Phytoseiid mite, Amblyseius cucumeris, and the entomopathogenic fungus, Beauveria bassiana, for control of western flower thrips in commercial bedding plant production.	\$2,874	Gary Magnum
FNE99-257	Dairying in Harford County, Maryland: Transition to Intensive Grazing	\$6,050	David Keyes
FNE99-263	No-till Transplanted Watermelons in Rye Cover Crop	\$5,308	Mike Malone
FNE99-265	Mulching with Black Plastic Drainage Pipe	\$2,390	Lawrence MacDonald
FNE99-267	Amending Soils to Produce Blueberries in Maryland	\$1,523	Guy & Lynn Moore
FNE99-268	Improving Protein Utilization in Grazing Dairy Cows by Supplementing the Diet with Liquid Molasses	\$4,175	Ginger Myers
FNE99-269	Evaluating a No-till Transplanter for Organic Vegetable Production	\$3,072	Drew Norman
FNE99-278	Warm-Season Grass Demonstration for Dairy Farms	\$2,520	Harry Strite

FNE99-287	Ginseng Dead-Heading: Determining the Effects of Removing Seed-Producing Flowers from Woods-Grown Ginseng	\$2,363	Steve & Karen Galloway
FNE98-202	Evaluating Raised Beds and Various Mulches for Vegetable Production	\$3,120	Ed Armacost
FNE97-187	Mixed Field Forage	\$2,230	Darryl Walker
FNE96-148	Improving Aquaculture Productivity - Safety with Dockside Elevator Systems	\$3,869	Richard Pelz
FNE95-104	Season Extension Through Annual Organic Strawberry Production - Fall Vegetable Production	\$4,705	Eric Rice
FNE93-012	Bio-Control of Corn Earworm and European Corn Borer in Sweet Corn	\$1,510	Nicholas C. Maravell Nick's Organic Farm

#### GRADUATE STUDENT GRANTS

Project #	Project Title	SARE Support	Project Leaders
GNE21-254	Effects of floral diversification on beneficial arthropods and ecosystem services in an edamame agroecosystem	\$14,998	Anahi Espindola University of Maryland, College Park Kathleen Evans University of Maryland
GNE21-255	How the Transition to Organic Grain Effects Biological Indicators of Soil Health	\$14,970	Dr.Ray Weil University of Maryland Biwek Gairhe University of Maryland
GNE21-257	Dragonflies as potential biological control on farms: prey assessment using a DNA approach	\$15,000	William Lamp University of Maryland, College Park Margaret Hartman University of Maryland
GNE21-268	Management options for farmers facing saltwater intrusion along the Chesapeake Bay's Eastern Shore	\$14,999	Dr.Katherine Tully University of Maryland Alison Schulenburg University of Maryland - College Park
GNE20-230	Optimizing Early-season Pest Control in Corn: Untangling the Contributions of Neonicotinoid Seed Treatments, In-furrow Pyrethroids, and Bt Hybrids	\$14,961	Dr.Kelly Hamby University of Maryland College Park Maria Cramer University of Maryland

GNE20-231	Co-digestion of Algae from Algal Turf Scrubbers in Farm-based Digesters to Increase Profitability and Reduce Nutrients to the Chesapeake Bay Watershed	\$14,978	Stephanie Lansing University of Maryland Danielle Delp University of Maryland
GNE20-236	Developing a Perennial Living Mulch System to Manage Insect Pests in Northeastern Cantaloupe Fields	\$14,955	Dr.Cerruti R. R. Hooks University of Maryland Demian Nunez University of Maryland
GNE19-197	Farming in the Face of Climate Change: Planting Alternative Crops in Salt-intruded Fields	\$14,995	Dr.Katherine Tully University of Maryland Elizabeth de la Reguera University of Maryland, College Park
GNE19-206	Novel Application of Existing Beekeeping Equipment to Combat Inter-colony Transmission of the Varroa Honey Bee Parasite	\$14,976	Dennis vanEngelsdorp University Maryland Kelly Kulhanek University of Maryland
GNE19-207	Plant Growth Promoting Rhizobacteria to Benefit Kale Production: Resilience to Drought Stress, Salinity and Microbial Food Safety	\$15,000	Dr.Shirley Micallef University of Maryland Xingchen Liu University of Maryland
GNE19-209	Healthy Soils, Healthy Farmers: Assessing Farmers' Soil Contact Activities and Soil Contamination on Urban and Rural Farms	\$15,000	Dr.Keeve Nachman, PhD Johns Hopkins BSPH Sara Lupolt, MPH Johns Hopkins Bloomberg School of Public Health
GNE19-211	Honey Bee Pathophysiology as a Predictive Measure of Overwinter Colony Loss	\$14,506	Dennis vanEngelsdorp University Maryland Anthony Nearman University of Maryland
GNE19-224	Effects of Living Mulch and Cover Crop Residues on Natural Enemy Abundance and Efficacy in Sweet Corn	\$14,009	Dr.Cerruti R. R. Hooks University of Maryland Veronica Yurchak University of Maryland
GNE18-167	Evaluation of Biochar as an Additive for Biogas Desulfurization in Dairy Manure Digesters	\$14,950	Stephanie Lansing University of Maryland Abhinav Choudhury University of Maryland, College Park
GNE18-177	Movement of Spiders from Drainage Ditches to Agricultural Fields to Enhance Conservation Biocontrol	\$13,684	William Lamp University of Maryland, College Park Dylan Kutz University of Maryland
GNE18-178	Understanding Spotted Wing Drosophila's Role as a Vector for Fruit Rot Fungi in Fall Red Raspberries	\$14,994	Dr.Kelly Hamby University of Maryland College Park Margaret Lewis University of Maryland

<a href="#">GNE18-185</a>	Getting Legume Cover Crops to Work in Mid-Atlantic Field Crop Rotations	\$14,811	Dr.Katherine Tully University of Maryland Cara Peterson University of Maryland - College Park
<a href="#">GNE18-187</a>	Evaluating the Effect of Potato Leafhopper Feeding on Biological Nitrogen Fixation in Alfalfa	\$8,804	William Lamp University of Maryland, College Park Morgan Thompson University of Maryland, College Park
<a href="#">GNE17-148</a>	The Maryland Winter Cover Crop Program: assessing performance	\$14,800	Dr.Brian Needelman University of Maryland Brian Davis University of Maryland
<a href="#">GNE17-150</a>	Integrating sustainability & food safety: assessing Salmonella serovar fitness in irrigation water & transfer onto crops	\$14,958	Dr.Shirley Micallef University of Maryland Angela Ferelli University of Maryland
<a href="#">GNE17-160</a>	Effect of winter cover crops on soil nitrogen dynamics in no-till corn systems	\$14,998	Dr.Katherine Tully University of Maryland Resham Thapa Department of Plant Science and Landscape Architecture, University of Maryland
<a href="#">GNE16-116</a>	Evaluations of economic benefits and long-term sustainability of neonicotinoid seed treatment use in the mid-Atlantic	\$14,978	Dr.Kelly Hamby University of Maryland College Park Aditi Dubey University of Maryland College Park
<a href="#">GNE15-096</a>	Evaluating the effects of green manure and biofertilizers on pak choi yield, minerals, and phytonutrient contents	\$14,994	Corrie Cotton UMES Nadine Burton University of Maryland Eastern Shore Research, Education, and Extension Farm
<a href="#">GNE15-099</a>	The effect of cover crops on the abundance and survival of beneficial stink bugs	\$11,916	Dr.Cerruti R. R. Hooks University of Maryland Peter Coffey University of Maryland Extension
<a href="#">GNE15-104</a>	Cold tolerance of the invasive kudzu bug and its potential impact on soybean production in the Northeast	\$14,423	William Lamp University of Maryland, College Park Jessica Grant University of Maryland
<a href="#">GNE15-106</a>	On-farm and isotopic evaluation of deep soil nitrogen capture and cycling by cover crop mixtures	\$14,945	Dr.Ray Weil University of Maryland Dr.Sarah Hirsh University of Maryland
<a href="#">GNE14-089</a>	Reduction of environmental risks and improving livestock productivity in Mixed Crop-Livestock Systems with cheap byproducts of berry fruits	\$14,983	Dr.Debabrata Biswas University of Maryland Serajus Salaheen USDA ARS



<a href="#">GNE12-032</a>	Quantification and persistence of ionophore antimicrobials associated with poultry litter	\$14,754	Dr.Joshua M. McGrath University of Maryland Dr.Amir Sapkota University of Maryland Saptashati Biswas University of Maryland
<a href="#">GNE12-047</a>	Spatial pattern of infestation risk and management of the invasive brown marmorated stink bug in soybeans	\$14,956	Galen Dively University of Maryland College Park William Lamp University of Maryland, College Park Dilip Venugopal Dept. of Entomology, Univ. of Maryland
<a href="#">GNE11-025</a>	Cover crop selection and manure placement for weed suppression and nitrogen use efficiency in a no-till organic corn system	\$14,986	Dr.Ray Weil University of Maryland Hanna Poffenbarger University of Maryland
<a href="#">GNE11-030</a>	Developing Inoculum to Increase Anaerobic Digestion Efficiency in Winter Months	\$14,974	Stephanie Lansing University of Maryland Freddy Witarsa University of Maryland

#### ON FARM RESEARCH/PARTNERSHIP GRANTS

<b>Project #</b>	<b>Project Title</b>	<b>SARE Support</b>	<b>Project Leaders</b>
<a href="#">ONE21-392</a>	Giant Miscanthus Production on Maryland Eastern Shore's Marginal Land: Grassroots Efforts to Restore Profitable Agriculture	\$25,801	Dr.Sarah Hirsh University of Maryland
<a href="#">ONE21-394</a>	Increasing Efficiency and Decision-Making Capability of Small, Socially Disadvantaged, and Minority Farmers	\$29,957	Dr.Lila Karki, PhD University of Maryland Eastern Shore
<a href="#">ONE21-397</a>	Increasing Awareness of Well Drinking Water Quality of the Farming Community in Maryland	\$29,830	Dr.Andrew Lazur University of Maryland Extension
<a href="#">ONE21-395</a>	Upcycling Local Waste Streams to Boost Urban Farm Productivity	\$26,883	Paul Sturm Ridge to Reefs
<a href="#">ONE18-313</a>	Relationship Marketing in the Digital Age: Helping Farmers Grow Their Businesses Through Online Marketing	\$14,495	Juliet Glass Maryland Farmers Market Association
<a href="#">ONE18-315</a>	Evaluation of Hops Production in Maryland as a Sustainable Agricultural Enterprise	\$12,214	Andrew Kness University of Maryland Extension

ONE17-295	On-farm food safety trainings for community supported agriculture, on-farm markets, and agritourism operations	\$14,974	Paul Goeringer Department of Agricultural and Resource Economics, College of Ag and Natural Resources, University of Maryland
ONE16-266	Increasing profitability of tomato production in high tunnels	\$14,800	Willie Lantz University of Maryland Extension
ONE16-269	A Maryland cheesemakers guild: Supporting producers, connecting with consumers	\$14,435	Ginger Myers University of Maryland Extension
ONE16-282c	Changing the mindset of Maryland cover crop farmers through delayed spring burn-down	\$11,102	Nevin Dawson University of Maryland Extension
ONE15-251	Priming for production: A podcast on soil health	\$14,818	Natalie Lounsbury University of New Hampshire Dr. Ray Weil University of Maryland
ONE14-216	Am I making a profit? Using calculators to develop profitable prices for farm-raised meats	\$13,452	Ginger Myers University of Maryland Extension
ONE12-163	Sustainable management tools for the redheaded flea beetle in nurseries	\$14,999	Brian Kunkel University of Delaware
ONE12-167	Launching a Maryland small farms poultry processing and marketing group	\$14,760	Ginger Myers University of Maryland Extension
ONE09-104	Developing a Cost Effective, Energy Efficient Greenhouse Using Solar Heating to Extend the Growing Season	\$6,960	Willie Lantz University of Maryland Extension
ONE08-086	Organic Dried Bean Production in Mid-Atlantic	\$7,395	Laura Hunsberger University of Maryland Cooperative Extension
ONE06-060	Short cycling as an approach to successful organic strawberry production	\$4,654	Willie Lantz University of Maryland Extension
ONE05-045	Promoting Pollinators on Maryland's Working Landscapes	\$9,535	Annette Meredith University of Maryland
ONE03-015	Double-crop forage systems for dairy farms	\$9,970	Don Schwartz Maryland Cooperative Extension

**SUSTAINABLE COMMUNITY INNOVATION GRANTS**

Project #	Project Title	SARE Support	Project Leaders
CNE12-096	Baltimore City Urban Agriculture Alliance	\$14,530	Maya Kosok Civic Works
CNE11-090	Producer Inventory Management for Fresh Fruit and Vegetable Sales to Retail Outlets	\$15,000	Willie Lantz University of Maryland Extension
CNE10-077	Stimulating Maryland Agricultural Entrepreneurship through Curbside Roundtables and Individual Planning	\$12,008	Ginger Myers University of Maryland Extension
CNE09-063	Mid-Atlantic Small Black Farmers Food Distribution Project	\$21,395	Berran Rogers Maryland Cooperative Extension Program Gladys McMichael Help Ourselves Project, Inc.
CNE08-047	Expanding and strengthening a network of farmers to support a local foodshed	\$5,660	Laura Hunsberger University of Maryland Cooperative Extension
CNE08-056	Leveraging community financing for farm and farmland protection	\$10,000	Dr. Lynda Brushett Cooperative Development I Michael Speltz Society for Protection of

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**Total funding from the USDA SARE program to  
Maryland  
\$7,868,998**

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For further information on projects, contact 802-651-8335 or [nesare@uvm.edu](mailto:nesare@uvm.edu). Sustainable Agriculture Research and Education (SARE) is funded by USDA's National Institute of Food and Agriculture (NIFA).