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 $406 million to more than 8,802 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.

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 and search for project number ENE20-165.

SARE in Maryland

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
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**
- **286 farmers changed a practice**

Learn about local impacts at:
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/ to learn more.

Naveen Kumar Dixit
University of Maryland Eastern Shore
(410) 621-3650
fnaveenkumar@umes.edu

Emily Zobel
University of Maryland Extension
(410) 228-8800
ezobel@umd.edu

For detailed information on SARE projects, go to
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.
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

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNE23-467</td>
<td>Building Community and Capacity of Care Farms Benefiting People with Intellectual or Developmental Differences in the Northeast United States</td>
<td>$257,753</td>
<td>Woody Woodroof Red Wiggler Community Farm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Andrea Barnhart Red Wiggler Community Farm</td>
</tr>
<tr>
<td>LNE23-468</td>
<td>Acres4Change Stewardship Education and Training Program</td>
<td>$134,483</td>
<td>Pertula George-Redd Acres4Change</td>
</tr>
<tr>
<td>LNE23-460</td>
<td>Aquaponic Systems, a Financially and Environmentally Sustainable Urban Farming Alternative in Maryland Taught Through Peer Learning Groups</td>
<td>$183,663</td>
<td>Jose-Luis Izursa University of Maryland</td>
</tr>
<tr>
<td>LNE23-461</td>
<td>Sustaining Urban Farming: Teaching Apprentices to Think Like Farmers and Researching Urban Farmers' Income and Quality of Life</td>
<td>$288,853</td>
<td>Margaret Morgan-Hubbard ECO City Farms</td>
</tr>
<tr>
<td>LNE22-443</td>
<td>Implementation of Improved Intestinal Parasite Management Practices on Maryland Livestock Farms</td>
<td>$165,354</td>
<td>Dr.Amanda Grev University of Maryland</td>
</tr>
<tr>
<td>LNE21-419</td>
<td>Teaching Black Farmers in Baltimore City to Grow Ethnic Crops for Black Communities</td>
<td>$252,248</td>
<td>Denzel Mitchell, Jr. Farm Alliance of Baltimore</td>
</tr>
<tr>
<td>LNE20-397</td>
<td>Implementing Rotational Grazing Practices on Livestock Operations in Maryland</td>
<td>$78,076</td>
<td>Dr.Amanda Grev University of Maryland</td>
</tr>
<tr>
<td>LNE18-366</td>
<td>Optimization of Starter Nitrogen Fertilizer Application for Corn Planted into a Cereal Rye Cover Crop</td>
<td>$199,790</td>
<td>Dr.Katherine Tully University of Maryland</td>
</tr>
<tr>
<td>Project Code</td>
<td>Title</td>
<td>Funding</td>
<td>Principal Investigator(s)</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------</td>
<td>---------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 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  
Dr. Sarah Hirsh  
University of Maryland  
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  
Natalie Lounsbury  
University of Maryland  
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 |
<table>
<thead>
<tr>
<th>Project Code</th>
<th>Project Title</th>
<th>Funding</th>
<th>Contact Person</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNE03-190</td>
<td>Small Ruminant Integrated Parasite Management (IPM)</td>
<td>$49,830</td>
<td>Susan Schoenian</td>
<td>Maryland Cooperative Extension</td>
</tr>
<tr>
<td>LNE03-192</td>
<td>Multipurpose Brassica cover crops for sustaining Northeast farmers</td>
<td>$158,570</td>
<td>Dr. Ray Weil</td>
<td>University of Maryland</td>
</tr>
<tr>
<td>LNE03-193</td>
<td>Sustainable pasture lamb production</td>
<td>$147,495</td>
<td>Niki Whitley</td>
<td>UMES - Maryland Cooperative Extension</td>
</tr>
<tr>
<td>LNE02-167</td>
<td>Enhancement, Implementation - Evaluation of Biologically Based Pest Management Tactic for Three Key Pests in Production Nurseries</td>
<td>$138,636</td>
<td>Dr. Paula Shrewsbury</td>
<td>University of Maryland</td>
</tr>
<tr>
<td>LNE01-145</td>
<td>Improving Sustainable Enterprise Selection - Marketing Skills through Business Skills Training</td>
<td>$4,230</td>
<td>Ginger Myers</td>
<td>Howard County Economic Development Authority</td>
</tr>
<tr>
<td>LNE01-152</td>
<td>Environmental - Economic Impacts of Management-Intensive Grazing on Dairy Farms</td>
<td>$131,795</td>
<td>Dr. Ray Weil</td>
<td>University of Maryland</td>
</tr>
<tr>
<td>LNE00-131</td>
<td>Development and Evaluation of Management Alternatives for Root Knot Nematodes and Volunteer Potatoes</td>
<td>$128,900</td>
<td>Kathyryne Everts</td>
<td>University of Delaware, Dept. of Plant and Soil</td>
</tr>
<tr>
<td>LNE00-140</td>
<td>Microdairy: Creating a Profitable Five-Cow Dairy</td>
<td>$168,590</td>
<td>Frank Kipe</td>
<td>Old Springhouse Farm</td>
</tr>
<tr>
<td>LNE97-084</td>
<td>Design and Implementation of a Searchable Database on Compost Production and Use for Internet Users</td>
<td>$20,000</td>
<td>Patricia D. Millner</td>
<td>USDA-ARS</td>
</tr>
<tr>
<td>LNE96-069</td>
<td>Soil Test for Active Organic Matter: A Tool to Help Assess Soil Quality</td>
<td>$100,000</td>
<td>Dr. Ray Weil</td>
<td>University of Maryland</td>
</tr>
<tr>
<td>LNP96-004</td>
<td>A Sustainable Agriculture Project at Chesapeake Farms</td>
<td>$6,300</td>
<td>Ray Forney</td>
<td>Dupont</td>
</tr>
<tr>
<td>LNE95-052</td>
<td>Fescue Endophyte Research Study</td>
<td>$9,632</td>
<td>Craig Hartsock</td>
<td>Allegany Soil Conservation District</td>
</tr>
<tr>
<td>LNE95-055</td>
<td>Control of Gastrointestinal Nematodes in Dairy Cattle Under Intensive Rotational Grazing Management</td>
<td>$45,000</td>
<td>Louis Gasbarre</td>
<td>USDA-ARS</td>
</tr>
<tr>
<td>Project #</td>
<td>Project Title</td>
<td>SARE Support</td>
<td>Project Leaders</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------</td>
<td>-----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>LNE95-061</td>
<td>Resource Conservation - Environmental Stewardship in the &quot;Maryland Ag in the Classroom&quot; Curriculum Guide</td>
<td>$70,000</td>
<td>Richard R. Leader Chesapeake Audubon Society/Pickering Creek Environmental Center</td>
<td></td>
</tr>
<tr>
<td>LNE95-062</td>
<td>Managing Dairy Waste Using Constructed Wetlands - Composting</td>
<td>$110,305</td>
<td>Leslie Cooperband University of Maryland</td>
<td></td>
</tr>
<tr>
<td>LNP92-001</td>
<td>On-farm Research, Demonstration and Education Project in Sustainable Agriculture: Remington Farms (was previously listed as LN92-032)</td>
<td>$15,000</td>
<td>Raymond D. Forney Remington Farms</td>
<td></td>
</tr>
<tr>
<td>LNE91-027</td>
<td>An Integrated Response to Pollination-Related Problems Resulting from Parasitic Honey-Be Mites, the Africanized Honey Bee, and honey-bee pathogens</td>
<td>$100,000</td>
<td>Nicholas Calderone ARS Bee Research Laboratory</td>
<td></td>
</tr>
<tr>
<td>LNE89-013</td>
<td>Winter Cover Crops for Corn Production in the Northeast: N Balance and Soil Moisture Status</td>
<td>$105,000</td>
<td>Morris Decker University of Maryland</td>
<td></td>
</tr>
<tr>
<td>LNE88-003</td>
<td>Role of Cereal Grain Cover Crops in Nitrogen Management for the Chesapeake Bay Region</td>
<td>$150,000</td>
<td>Russell Brinfield University of Maryland</td>
<td></td>
</tr>
<tr>
<td>LNE23-481R</td>
<td>Optimizing spring cover crop management for productivity, soil health and climate resilience</td>
<td>$249,267</td>
<td>Dr. Ray Weil University of Maryland</td>
<td></td>
</tr>
<tr>
<td>LNE23-474R</td>
<td>A Comparison of Forage Production, Livestock Performance, Soil Health, and Economics Between Perennial and Perennial/Annual Combination Forage Systems</td>
<td>$99,899</td>
<td>Dr. Amanda Grev University of Maryland</td>
<td></td>
</tr>
<tr>
<td>LNE23-475R</td>
<td>Sustainability in Beekeeping: Improved Accuracy and Sensitivity of Sampling for the Honey Bee Parasite Varroa destructor</td>
<td>$145,317</td>
<td>David Hawthorne University of Maryland</td>
<td></td>
</tr>
<tr>
<td>LNE20-406R</td>
<td>Creating an Ecofriendly Pest Suppression Program in Sweet Corn</td>
<td>$100,371</td>
<td>Dr. Cerruti R. R. Hooks University of Maryland</td>
<td></td>
</tr>
</tbody>
</table>

**RESEARCH ONLY GRANTS**
<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| LNE20-408R | Managing Agricultural Drainage Ditches for Conservation Biological Control on the Delmarva Peninsula | $197,728     | William Lamp  
University of Maryland, College Park               |
| LNE19-392R | Improving Honey Bee Health and Crop Visitation during Pollination            | $148,827     | Kirsten Traynor  
University of Maryland  
Dennis vanEngelsdorp  
University Maryland                               |
| ENE23-180  | Educational Support for Increasing the Acceptance of Federal Nutrition Benefits by Maryland Farmers | $190,073     | Megan Todd  
Agriculture Law Education Initiative               |
| ENE20-160  | Farm Stress Management and Resources for Maryland Service Providers          | $96,645      | Shannon Dill  
University of Maryland                               |
| ENE20-165  | Maryland Extension Training: Solar Photovoltaic Options, Opportunities and Challenges | $72,152      | Dr.Drew Schiavone  
University of Maryland                               |
| ENE18-151  | Agricultural Conservation Leasing Guide Education Series                   | $159,380     | Sarah Everhart  
University of Maryland Francis K. Carey School of Law |
| ENE16-144  | The Northeast Cover Crops Council: Building the network and online decision support tools | $144,859     | Dr.Katherine Tully  
University of Maryland                               |
| ENE98-038  | Organic Grain Production Another Way                                         | $90,100      | John Hall  
University of Maryland                               |
| ENE98-044  | Locally Led Farmer Groups for Sustainable Agriculture: The Study Circle Approach | $6,500       | Jim Hanson  
Department of Ag Resource Economics                   |
| ENE98-046  | Conducting On-Farm Research: Enabling Farmers to Implement Sustainable Change in Agriculture | $50,000      | Kathryne Everts  
University of Delaware, Dept. of Plant and Soil       |
| ENE97-033  | Riparian Buffer Training (Enhancement, Installation, and Management of Riparian Buffer Systems) | $20,500      | Robert Tjaden  
Univ. of MD Cooperative Ext. Service                 |
| ENE96-022  | 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                   |
<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENE96-024</td>
<td>Training, Networking and Demonstrating Whole Farm Forage Grazing Systems</td>
<td>$60,000</td>
<td>Elmer M. Dengler USDA -- NRCS</td>
</tr>
<tr>
<td>FNE24-090</td>
<td>Maryland Land Ownership: Oral Histories Project</td>
<td>$18,700</td>
<td>Nia Nyamweya Beauty Blooms LLC</td>
</tr>
<tr>
<td>FNE24-104</td>
<td>Using a High Tunnel to Increase Fig Tree Yield in Maryland and Conserving Local Fig Germplasm</td>
<td>$29,945</td>
<td>Miaochan Zhi Thousand Springs Orchard cuimei xu johns hopkins university</td>
</tr>
<tr>
<td>FNE23-054</td>
<td>2023 Weed Suppression Study and Analysis</td>
<td>$10,539</td>
<td>Elizabeth Lamb Lamb The Sixth Branch</td>
</tr>
<tr>
<td>FNE22-007</td>
<td>Determining the Effect of Tree Pruning and Nutritional Inputs on a Neglected Chestnut Orchard</td>
<td>$29,975</td>
<td>Jane Dennison, Ph.D. Morris Orchard LLC</td>
</tr>
<tr>
<td>FNE22-020</td>
<td>Nature’s Colors: Exploring the Production &amp; Profitability of Natural Dyes in Baltimore</td>
<td>$30,000</td>
<td>Kenya Miles Blue Light Junction</td>
</tr>
<tr>
<td>FNE22-031</td>
<td>Foliar Application of Kaolin Clay to Manage Pest and Diseases in Day Neutral Strawberry</td>
<td>$22,247</td>
<td>Maria Velikonja Carniola Farms INC</td>
</tr>
<tr>
<td>FNE22-014</td>
<td>Improving Soil Tilth and Productivity with Mycorrhizal and Saprophytic Fungi</td>
<td>$2,236</td>
<td>Matthew Harhai Goat Plum Tree Farm, LLC</td>
</tr>
<tr>
<td>FNE22-016</td>
<td>Ground Cherries: Improving Harvesting Efficiency and Defining Marketing Measures</td>
<td>$5,557</td>
<td>Jenni Hoover Serenity Grove Farm</td>
</tr>
<tr>
<td>FNE22-021</td>
<td>For the Love of Legumes: Sustainable Urban Micro-Scale Grains and Dried Beans On a Demonstration Farm in Baltimore City</td>
<td>$29,806</td>
<td>Denzel Mitchell, Jr. Farm Alliance of Baltimore</td>
</tr>
<tr>
<td>FNE21-991</td>
<td>Growing Dahlias for Cut Flower Production via Autopots and Aquaponics</td>
<td>$14,518</td>
<td>Dr. Tom Precht Grateful Gardeners</td>
</tr>
<tr>
<td>FNE20-954</td>
<td>Composting Sheep Manure with Black Soldier Fly Larvae for Fly and Parasite Control</td>
<td>$13,263</td>
<td>Andrew Keller Vista View Farms</td>
</tr>
<tr>
<td>FNE20-951</td>
<td>Managing Corn Earworm in Hemp Field by Using Sweet Corn as a Trap Crop</td>
<td>$14,895</td>
<td>Kelly Edwards Wood Duck Landing Farm</td>
</tr>
<tr>
<td>Grant Number</td>
<td>Project Title</td>
<td>Funding</td>
<td>Principal Investigator</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>----------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>FNE18-900</td>
<td>Use of Rate-of-Gain and Dry Lot to Maintain Parasite Anthelmintic Susceptibility in Bluefaced Leicester Maryland Lambs</td>
<td>$13,658</td>
<td>Andrew Keller Vista View Farms</td>
</tr>
<tr>
<td>FNE17-875</td>
<td>Using real-time generated rate-of-gain to determine anthelmintic need in pastured Blue Faced Leicester Maryland lambs</td>
<td>$9,104</td>
<td>Andrew Keller Vista View Farms</td>
</tr>
<tr>
<td>FNE16-843</td>
<td>Methods for improving quality and conditions of ground cherry production part II</td>
<td>$5,652</td>
<td>Lisa Garfield Calliope Farm</td>
</tr>
<tr>
<td>FNE15-828</td>
<td>Methods for improving quality and conditions of ground cherry production</td>
<td>$6,889</td>
<td>Lisa Garfield Calliope Farm</td>
</tr>
<tr>
<td>FNE15-832</td>
<td>Exploring dryland rice production in the mid-Atlantic</td>
<td>$11,405</td>
<td>Heinz Thomet Next Step Produce</td>
</tr>
<tr>
<td>FNE14-803</td>
<td>Effectiveness of Aerated Static Pile to Windrow Composting on Small-Scale Farms</td>
<td>$6,237</td>
<td>Emma Jagoz Moon Valley Farm</td>
</tr>
<tr>
<td>FNE13-789</td>
<td>Exploring low-tech food dehydration to increase profits on small farms</td>
<td>$14,915</td>
<td>Tanya Tolchin Jug Bay Market Garden</td>
</tr>
<tr>
<td>FNE12-768</td>
<td>Water Hyacinth Project</td>
<td>$8,687</td>
<td>Larry Ward Ward Farms</td>
</tr>
<tr>
<td>FNE10-693</td>
<td>Economical Climate Control for extended Production in High Tunnel Vertical Growing Systems</td>
<td>$7,651</td>
<td>Allen Lilly Ryan's Glade Farm</td>
</tr>
<tr>
<td>FNE08-630</td>
<td>Increasing profitability: Building consumer preference for chevon through education and outreach</td>
<td>$10,000</td>
<td>Jeanne Dietz-Band Many Rocks Farm</td>
</tr>
<tr>
<td>FNE08-631</td>
<td>Testing Two Selection Assays-Efficacy for Varroa-mite-tolerant Bee Production</td>
<td>$4,347</td>
<td>Adam Finkelstein VP Queen Bees</td>
</tr>
<tr>
<td>FNE08-647</td>
<td>Propagating day-neutral strawberry plugs for fall planting</td>
<td>$3,395</td>
<td>Jim Strawser Brook View Farm</td>
</tr>
<tr>
<td>Code</td>
<td>Project Title</td>
<td>Budget</td>
<td>Author</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------------------------------------</td>
<td>--------</td>
<td>----------------------</td>
</tr>
<tr>
<td>FNE07-620</td>
<td>Assess and quantify the benefit of alternative and renewable energy for greenhouse operations</td>
<td>$8,800</td>
<td>John Shepley Emory Knoll Farms, Inc.</td>
</tr>
<tr>
<td>FNE06-594</td>
<td>Sustainable livestock farming: A promotional video and teaching tool</td>
<td>$5,770</td>
<td>Robin Way Rumbleway Farm</td>
</tr>
<tr>
<td>FNE05-546</td>
<td>Using ultrasound scanning and performance testing technology to increase loineye area in lamb</td>
<td>$5,785</td>
<td>John Hall Hall Suffolks</td>
</tr>
<tr>
<td>FNE04-517</td>
<td>Enhancing the Maryland Nursery Industry's Ability to Improve Water Quality and Increase Profit</td>
<td>$9,900</td>
<td>Leslie Hunter-Cario Environmental Concern, Inc.</td>
</tr>
<tr>
<td>FNE04-532</td>
<td>Verifying New Sustainable Methods for Small Ruminant Parasite Control</td>
<td>$3,300</td>
<td>Karen Taylor</td>
</tr>
<tr>
<td>FNE03-477</td>
<td>Farrow to Finish Premium Pastured Pork</td>
<td>$1,555</td>
<td>Errol Mattox</td>
</tr>
<tr>
<td>FNE03-492</td>
<td>Raising Goats on Pasture Alone or with Grain Supplementation</td>
<td>$2,907</td>
<td>Kurt Schuster</td>
</tr>
<tr>
<td>FNE03-497</td>
<td>Sustainable Methods for Small Ruminant Parasite Control</td>
<td>$1,892</td>
<td>Karen Taylor</td>
</tr>
<tr>
<td>FNE02-402</td>
<td>Use of Corn Gluten Meal to Reduce Weeds in Beet Fields</td>
<td>$2,356</td>
<td>David Barylski</td>
</tr>
<tr>
<td>FNE02-424</td>
<td>Effect of Straw, Leguminous and Non-Leguminous Cover Crops on Productivity and Weed Suppression in Organically Managed Asparagus Beds</td>
<td>$864</td>
<td>Michael Klein</td>
</tr>
<tr>
<td>FNE02-426</td>
<td>Production of Strawberries in November and December</td>
<td>$9,927</td>
<td>David Lankford</td>
</tr>
<tr>
<td>FNE02-427</td>
<td>Indoor Raspberry Production</td>
<td>$7,633</td>
<td>Wayne Lockwood</td>
</tr>
<tr>
<td>FNE02-447</td>
<td>Determination of Omega-3 Fatty Acid in Pastured Raised Meat Rabbits</td>
<td>$5,937</td>
<td>Robin Way Rumbleway Farm</td>
</tr>
<tr>
<td>Project ID</td>
<td>Project Title</td>
<td>Budget</td>
<td>Investigator(s)</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------------------------------------------------------------------------------------</td>
<td>--------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>FNE01-376</td>
<td>Maximizing Nitrogen - Phosphorus Efficiency in a Managed-Intensive-Grazing Dairy</td>
<td>$4,481</td>
<td>Judy Gifford St. Brigid's Farm</td>
</tr>
<tr>
<td>FNE01-382</td>
<td>Effect of Wood Chip Mulch, Leguminous - Non-Leguminous Cover Crops on Productivity - Weed Suppression in Organically Managed Asparagus Beds</td>
<td>$3,583</td>
<td>Michael Klein</td>
</tr>
<tr>
<td>FNE00-296</td>
<td>On-site demonstration for replacing broadcast herbicides with cultivation and banded herbicides in corn.</td>
<td>$5,426</td>
<td>Roy Crow</td>
</tr>
<tr>
<td>FNE00-305</td>
<td>Wine grape production in Harford County: the use of canines as a deterrent to deer damage.</td>
<td>$822</td>
<td>Robert Halman Ole 9 Vineyard</td>
</tr>
<tr>
<td>FNE00-311</td>
<td>The use of the predacious Phytoselid mite, Amblyseius cucumeris, and the entomopathogenic fungus, Beauveria bassiana, for control of western flower thrips in commercial bedding plant production.</td>
<td>$2,874</td>
<td>Gary Magnum</td>
</tr>
<tr>
<td>FNE99-257</td>
<td>Dairying in Harford County, Maryland: Transition to Intensive Grazing</td>
<td>$6,050</td>
<td>David Keyes</td>
</tr>
<tr>
<td>FNE99-263</td>
<td>No-till Transplanted Watermelons in Rye Cover Crop</td>
<td>$5,308</td>
<td>Mike Malone</td>
</tr>
<tr>
<td>FNE99-265</td>
<td>Mulching with Black Plastic Drainage Pipe</td>
<td>$2,390</td>
<td>Lawrence MacDonald</td>
</tr>
<tr>
<td>FNE99-267</td>
<td>Amending Soils to Produce Blueberries in Maryland</td>
<td>$1,523</td>
<td>Guy &amp; Lynn Moore</td>
</tr>
<tr>
<td>FNE99-268</td>
<td>Improving Protein Utilization in Grazing Dairy Cows by Supplementing the Diet with Liquid Molasses</td>
<td>$4,175</td>
<td>Ginger Myers</td>
</tr>
<tr>
<td>FNE99-269</td>
<td>Evaluating a No-till Transplanter for Organic Vegetable Production</td>
<td>$3,072</td>
<td>Drew Norman</td>
</tr>
<tr>
<td>FNE99-278</td>
<td>Warm-Season Grass Demonstration for Dairy Farms</td>
<td>$2,520</td>
<td>Harry Strite</td>
</tr>
<tr>
<td>Project #</td>
<td>Project Title</td>
<td>SARE Support</td>
<td>Project Leaders</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>FNE99-287</td>
<td>Ginseng Dead-Heading: Determining the Effects of Removing Seed-Producing Flowers from Woods-Grown Ginseng</td>
<td>$2,363</td>
<td>Steve &amp; Karen Galloway</td>
</tr>
<tr>
<td>FNE98-202</td>
<td>Evaluating Raised Beds and Various Mulches for Vegetable Production</td>
<td>$3,120</td>
<td>Ed Armacost</td>
</tr>
<tr>
<td>FNE97-187</td>
<td>Mixed Field Forage</td>
<td>$2,230</td>
<td>Darryl Walker</td>
</tr>
<tr>
<td>FNE96-148</td>
<td>Improving Aquaculture Productivity - Safety with Dockside Elevator Systems</td>
<td>$3,869</td>
<td>Richard Pelz</td>
</tr>
<tr>
<td>FNE95-104</td>
<td>Season Extension Through Annual Organic Strawberry Production - Fall Vegetable Production</td>
<td>$4,705</td>
<td>Eric Rice</td>
</tr>
<tr>
<td>FNE93-012</td>
<td>Bio-Control of Corn Earworm and European Corn Borer in Sweet Corn</td>
<td>$1,510</td>
<td>Nicholas C. Maravell Nick's Organic Farm</td>
</tr>
</tbody>
</table>

**GRADUATE STUDENT GRANTS**

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNE21-254</td>
<td>Effects of floral diversification on beneficial arthropods and ecosystem services in an edamame agroecosystem</td>
<td>$14,998</td>
<td>Anahi Espindola University of Maryland, College Park Kathleen Evans University of Maryland</td>
</tr>
<tr>
<td>GNE21-255</td>
<td>How the Transition to Organic Grain Effects Biological Indicators of Soil Health</td>
<td>$14,970</td>
<td>Dr. Ray Weil University of Maryland Biwek Gairhe University of Maryland</td>
</tr>
<tr>
<td>GNE21-257</td>
<td>Dragonflies as potential biological control on farms: prey assessment using a DNA approach</td>
<td>$15,000</td>
<td>William Lamp University of Maryland, College Park Margaret Hartman University of Maryland</td>
</tr>
<tr>
<td>GNE21-268</td>
<td>Management options for farmers facing saltwater intrusion along the Chesapeake Bay’s Eastern Shore</td>
<td>$14,999</td>
<td>Dr. Katherine Tully University of Maryland Alison Schultenburg University of Maryland - College Park</td>
</tr>
<tr>
<td>GNE20-230</td>
<td>Optimizing Early-season Pest Control in Corn: Untangling the Contributions of Neonicotinoid Seed Treatments, In-furrow Pyrethroids, and Bt Hybrids</td>
<td>$14,961</td>
<td>Dr. Kelly Hamby University of Maryland College Park Maria Cramer University of Maryland</td>
</tr>
</tbody>
</table>
| 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 | Dr. Dennis vanEngelsdorp  
University of 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 | Dr. Dennis vanEngelsdorp  
University of 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 |
GNE18-185 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

GNE18-187 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

GNE17-148 The Maryland Winter Cover Crop Program: assessing performance $14,800 Dr. Brian Needelman University of Maryland Brian Davis University of Maryland

GNE17-150 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

GNE17-160 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

GNE16-116 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

GNE15-096 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

GNE15-099 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

GNE15-104 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

GNE15-106 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

GNE14-089 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
<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| GNE12-032    | Quantification and persistence of ionophore antimicrobials associated with poultry litter                                                     | $14,754      | Dr. Joshua M. McGrath  
Dr. Amir Sapkota  
Saptashati Biswas  
University of Maryland |
| GNE12-047    | 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 |
| GNE11-025    | 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 |
| GNE11-030    | 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**

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| ONE21-392    | Giant Miscanthus Production on Maryland Eastern Shore’s Marginal Land: Grassroots Efforts to Restore Profitable Agriculture                  | $25,801      | Dr. Sarah Hirsh  
University of Maryland |
| ONE21-394    | Increasing Efficiency and Decision-Making Capability of Small, Socially Disadvantaged, and Minority Farmers                                  | $29,957      | Dr. Lila Karki, PhD  
University of Maryland Eastern Shore |
| ONE21-397    | Increasing Awareness of Well Drinking Water Quality of the Farming Community in Maryland                                                   | $29,830      | Dr. Andrew Lazur  
University of Maryland Extension |
| ONE21-395    | Upcycling Local Waste Streams to Boost Urban Farm Productivity                                                                            | $26,883      | Paul Sturm  
Ridge to Reefs |
| ONE18-313    | Relationship Marketing in the Digital Age: Helping Farmers Grow Their Businesses Through Online Marketing                                  | $14,495      | Juliet Glass  
Maryland Farmers Market Association |
| ONE18-315    | Evaluation of Hops Production in Maryland as a Sustainable Agricultural Enterprise                                                          | $12,214      | Andrew Kness  
University of Maryland Extension |
<table>
<thead>
<tr>
<th>Grant Number</th>
<th>Project Title</th>
<th>Budget</th>
<th>Principal Investigator</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONE17-295</td>
<td>On-farm food safety trainings for community supported agriculture, on-farm markets, and agritourism operations</td>
<td>$14,974</td>
<td>Paul Goeringer</td>
<td>Department of Agricultural and Resource Economics, College of Ag and Natural Resources, University of Maryland</td>
</tr>
<tr>
<td>ONE16-266</td>
<td>Increasing profitability of tomato production in high tunnels</td>
<td>$14,800</td>
<td>Willie Lantz</td>
<td>University of Maryland Extension</td>
</tr>
<tr>
<td>ONE16-269</td>
<td>A Maryland cheesemakers guild: Supporting producers, connecting with consumers</td>
<td>$14,435</td>
<td>Ginger Myers</td>
<td>University of Maryland Extension</td>
</tr>
<tr>
<td>ONE16-282c</td>
<td>Changing the mindset of Maryland cover crop farmers through delayed spring burn-down</td>
<td>$11,102</td>
<td>Nevin Dawson</td>
<td>University of Maryland Extension</td>
</tr>
<tr>
<td>ONE15-251</td>
<td>Priming for production: A podcast on soil health</td>
<td>$14,818</td>
<td>Natalie Lounsbury</td>
<td>University of New Hampshire</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr. Ray Weil</td>
<td>University of Maryland</td>
</tr>
<tr>
<td>ONE14-216</td>
<td>Am I making a profit? Using calculators to develop profitable prices for farm-raised meats</td>
<td>$13,452</td>
<td>Ginger Myers</td>
<td>University of Maryland Extension</td>
</tr>
<tr>
<td>ONE12-163</td>
<td>Sustainable management tools for the redheaded flea beetle in nurseries</td>
<td>$14,999</td>
<td>Brian Kunkel</td>
<td>University of Delaware</td>
</tr>
<tr>
<td>ONE12-167</td>
<td>Launching a Maryland small farms poultry processing and marketing group</td>
<td>$14,760</td>
<td>Ginger Myers</td>
<td>University of Maryland Extension</td>
</tr>
<tr>
<td>ONE09-104</td>
<td>Developing a Cost Effective, Energy Efficient Greenhouse Using Solar Heating to Extend the Growing Season</td>
<td>$6,960</td>
<td>Willie Lantz</td>
<td>University of Maryland Extension</td>
</tr>
<tr>
<td>ONE08-086</td>
<td>Organic Dried Bean Production in Mid-Atlantic</td>
<td>$7,395</td>
<td>Laura Hunsberger</td>
<td>University of Maryland Cooperative Extension</td>
</tr>
<tr>
<td>ONE06-060</td>
<td>Short cycling as an approach to successful organic strawberry production</td>
<td>$4,654</td>
<td>Willie Lantz</td>
<td>University of Maryland Extension</td>
</tr>
<tr>
<td>ONE05-045</td>
<td>Promoting Pollinators on Maryland’s Working Landscapes</td>
<td>$9,535</td>
<td>Annette Meredith</td>
<td>University of Maryland</td>
</tr>
<tr>
<td>ONE03-015</td>
<td>Double-crop forage systems for dairy farms</td>
<td>$9,970</td>
<td>Don Schwartz</td>
<td>Maryland Cooperative Extension</td>
</tr>
<tr>
<td>Project #</td>
<td>Project Title</td>
<td>SARE Support</td>
<td>Project Leaders</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------------------------------------</td>
<td>--------------</td>
<td>-----------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>CNE12-096</td>
<td>Baltimore City Urban Agriculture Alliance</td>
<td>$14,530</td>
<td>Maya Kosok</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Civic Works</td>
<td></td>
</tr>
<tr>
<td>CNE11-090</td>
<td>Producer Inventory Management for Fresh Fruit and Vegetable Sales to Retail Outlet</td>
<td>$15,000</td>
<td>Willie Lantz</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>University of Maryland Extension</td>
<td></td>
</tr>
<tr>
<td>CNE10-077</td>
<td>Stimulating Maryland Agricultural Entrepreneurship through Curbside Roundtables and Individual Planning</td>
<td>$12,088</td>
<td>Ginger Myers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>University of Maryland Extension</td>
<td></td>
</tr>
<tr>
<td>CNE09-063</td>
<td>Mid-Atlantic Small Black Farmers Food Distribution Project</td>
<td>$21,395</td>
<td>Berran Rogers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Maryland Cooperative Extension Program</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gladys McMichael</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Help Ourselves Project, Inc.</td>
<td></td>
</tr>
<tr>
<td>CNE08-047</td>
<td>Expanding and strengthening a network of farmers to support a local foodshed</td>
<td>$5,660</td>
<td>Laura Hunsberger</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>University of Maryland Cooperative Extension</td>
<td></td>
</tr>
<tr>
<td>CNE08-056</td>
<td>Leveraging community financing for farm and farmland protection</td>
<td>$10,000</td>
<td>Dr. Lynda Brushett</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cooperative Development I</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Michael Speltz</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Society for Protection of</td>
<td></td>
</tr>
</tbody>
</table>

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

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