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

Delaware

Project Highlight: *Training the Trainers on Cover Crop Practices*

Interest in cover crops is high due to their ability to improve soil health, reduce off-farm inputs and protect both the soil and water quality. In 2014, a national conference on soil health and cover crops co-hosted by SARE drew strong engagement from Northeastern farmers, educators and researchers. As a follow up to keep the momentum going and expand the use of cover crops in the Northeast, Extension professionals with a sustainable agriculture focus came together in 2015 to organize an in-depth train-the-trainer workshop.

The Northeast SARE Regional Cover Crops Training, hosted by Delaware State University, covered the latest research on the benefits and successful management of cover crops in grain, vegetable and animal production. The planning committee included agricultural leaders from 13 states. Ninety-four participants were organized into 11 teams that integrated farmers, USDA-NRCS representatives, Extension professionals, academics and leaders from industry and nonprofits.

From this two-year project, 12 farmers adopted new cover crop species, planted new fields in cover crops, or used new establishment and termination techniques, with more reporting their intention to do so. Additionally, 71 service providers recommended cover crop practices to other farmers. Videos from the three-day conference are posted on the SARE website.

For more information on this project, see sare.org/projects, and search for project number ENE15-141.

SARE in Delaware

northeast.sare.org/sare-in-your-state/delaware

$1,224,589 in total funding

34 grant projects

(since 1988)

For a complete list of grant projects state by state, go to www.sare.org/state-summaries

www.sare.org
SARE Grants in Delaware

Total awards: 34 grants
- 6 Research and Education
- 2 Professional Development Program
- 10 Farmer/Rancher
- 9 Graduate Student
- 7 On Farm Research/Partnership

Total funding: $1,224,589
- $735,817 Research and Education
- $140,943 Professional Development Program
- $94,568 Farmer/Rancher
- $130,921 Graduate Student
- $122,340 On Farm Research/Partnership

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/delaware

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/delaware to learn more.

Rose Ogutu
Delaware State University
(302) 857-6397
rogutu@desu.edu

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

For detailed information on SARE projects, go to www.SARE.org

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.
Delaware has been awarded $1,224,589 grants to support 33 projects, including but not limited to, 5 research and/or education projects, 2 professional development projects and 10 producer-led projects. Delaware 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>LNE21-418</td>
<td>Increasing the Use of a Natural Fungus (Duddingtonia flagrans) to Control Internal Parasites in Small Ruminants</td>
<td>$199,992</td>
<td>Dr. Kwame Matthews</td>
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<td>Delaware State University</td>
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<tr>
<td>LNE12-314</td>
<td>Improving water and nitrogen use efficiency using soil moisture monitoring to improve irrigation management</td>
<td>$210,666</td>
<td>James Adkins</td>
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<td>University of Delaware</td>
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<tr>
<td>LNE08-269</td>
<td>Efficacy of Natural Dewormers in the Control of Gastrointestinal Nematodes of Small Ruminants</td>
<td>$166,168</td>
<td>Dr. Dahlia Jackson-O’Brien</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Delaware State University</td>
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<tr>
<td>LNE07-261</td>
<td>Farming for native bees</td>
<td>$93,991</td>
<td>Dr. Faith Kuehn</td>
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<td></td>
<td>Plant Industries Administrator</td>
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<tr>
<td>LNE05-221</td>
<td>Mentoring small fresh produce farmers who want to increase farm revenue by selling value-added products through direct-market channels</td>
<td>$65,000</td>
<td>Anne Fitzgerald</td>
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<td>Delaware Department of Agriculture</td>
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### PROFESSIONAL DEVELOPMENT PROGRAM GRANTS

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</tr>
</thead>
<tbody>
<tr>
<td>ENE15-141</td>
<td>2016 Northeast SARE Regional Cover Crops Training</td>
<td>$134,443</td>
<td>John Clendaniel</td>
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<tr>
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<td>Delaware State University</td>
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<tr>
<td>ENE98-043</td>
<td>Nutrient Management Education: Development and Implementation of Training Modules on Basic Principles, Current State of Knowledge and Advances in Research</td>
<td>$6,500</td>
<td>Karen L. Gartley</td>
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<td></td>
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<td></td>
<td>University of Delaware</td>
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### FARMER/RANCHER GRANTS

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<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>FNE22-004</td>
<td>Automated Drainage Water Management for Improved Precision, Yield, and Water Quality</td>
<td>$29,995</td>
<td>Chris Breeding</td>
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<td></td>
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<td>Twin Cedar Ag</td>
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<tr>
<td>FNE17-873</td>
<td>Improving poultry farm sustainability through pollinator buffers</td>
<td>$11,481</td>
<td>Tina Hill</td>
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<td></td>
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<td>Hill Farms, Inc</td>
</tr>
<tr>
<td>FNE13-786</td>
<td>Economic analysis of oyster mushroom production in an unused poultry house</td>
<td>$8,849</td>
<td>Ramrattan sagram</td>
</tr>
</tbody>
</table>
Survivability and production of heritage breed egg layers on pasture in Delmarva
$13,784
Kim Hartline
Spring Morning Farm LLC.

Effects of Pole Lima Production in North/South vs. East/West Row Placement
$5,375
Edward Zitvogel
Zitvogel Farms

Sustainable cropping systems for processing baby lima bean production
$10,000
Wm. Donald (Don) Clifton, II
Clifton Farms, Inc.

Greenhouse heating system
$2,744
Katherine Brooks

Using Innovative Production Systems to Meet the Needs of new Emerging Markets
$5,000
Luke Chappel

Organic No-Till Cropping System Farm Evaluation 1998-2000
$4,200
Jon Danko

Economical Analysis of Kenaf Grown with Different Nutrient Sources
$3,140
Daniel Palmer

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**GRADUATE STUDENT GRANTS**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>GNE22-294</td>
<td>Promoting natural suppression of slugs using local parasitic nematodes</td>
<td>$15,000</td>
<td>Dr. Michael Crossley, Thabu Mugala, University of Delaware</td>
</tr>
<tr>
<td>GNE20-241</td>
<td>Using Drones to Measure Cover Crop Biomass as a Predictor of Soil Nitrogen And Corn Emergence Issues</td>
<td>$14,832</td>
<td>Dr. Jarrod Miller, Jamie Taraila, University of Delaware</td>
</tr>
<tr>
<td>GNE19-210</td>
<td>Do Soil Health Practices Impact Subsurface &quot;Legacy&quot; Phosphorus Losses from Soils on the Delmarva Peninsula?</td>
<td>$14,713</td>
<td>Amy Shober, Lauren Mosesso, University of Delaware</td>
</tr>
<tr>
<td>GNE19-217</td>
<td>Microbial Inoculants for the Improvement of Alfalfa Crop Productivity and Health</td>
<td>$12,453</td>
<td>Dr. Harsh Bais, Amanda Rosier, University of Delaware</td>
</tr>
<tr>
<td>GNE19-203</td>
<td>Improvements to Quality-related Limitations to Market Growth of Biodiesel and Renewable Hydrocarbon Diesel Produced from Low-value Feedstocks</td>
<td>$15,000</td>
<td>Dr. Gulnihal Ozbay, Dr. Shehu Isah, Delaware State University</td>
</tr>
<tr>
<td>GNE19-219</td>
<td>Soil Microbiome Impacts on Floral Rewards and Implications for Pollinator Nutrition</td>
<td>$14,984</td>
<td>Dr. Deborah Delaney, Grace Savoy-Burke, University of Delaware</td>
</tr>
<tr>
<td>GNE15-111</td>
<td>Using silicon fertilizers to improve soil phosphorus availability and uptake by winter wheat in high-phosphorus soils</td>
<td>$14,995</td>
<td>Amy Shober, Angelia Seyfferth, Zhiyuan Qin, University of Delaware</td>
</tr>
<tr>
<td>GNE14-086</td>
<td>Use of a Natural Biocontrol Agent Bacillus subtilis UD1022 to Increase Crop Yield and Reduce Contamination by Listeria monocytogenes On Cantaloupes</td>
<td>$14,035</td>
<td>Dr. Kalmia Kniel, Dr. Harsh Bais, Sarah Markland, University of Delaware</td>
</tr>
</tbody>
</table>
Developing sustainable aquaculture methods for the mummichog, Fundulus heteroclitus, with emphasis on egg production

$14,909

Dennis McIntosh, Ph.D.  
Delaware State University  
Courtnay Janiak  
Delaware State University

### ON FARM RESEARCH/PARTNERSHIP GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
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</tr>
</thead>
</table>
| ONE22-417   | Providing a Research Base for Indoor Lighted Production of Strawberries in a Repurposed Poultry House. | $21,039      | Dr. Gordon Johnson  
University of Delaware                           |
| ONE20-372   | Prevalence of Toxoplasma gondii on Small Ruminant Farms in Delaware           | $29,992      | Dr. Kwame Matthews  
Delaware State University                          |
| ONE19-344   | Cost Benefits of Common Insecticide Practices Used to Prevent Soybean Pest Problems in Delaware | $28,221      | Dr. David Owens  
University of Delaware                           |
| ONE18-317   | Characterization of Gastrointestinal Nematode Anthelmintic Resistance on Small Ruminant Farms in Delaware | $14,974      | Dr. Kwame Matthews  
Delaware State University                          |
| ONE16-280c  | Utilizing cover crops for additional benefits in Delaware                     | $11,111      | Mark VanGessel  
University of Delaware                           |
| ONE14-215   | Determining the risks associated with scavenging raptors to the biosecurity of broiler farms on Delmarva. | $11,307      | Dr. Brigid McCrea  
Delaware State University Cooperative Extension   |
| ONE12-157   | Development of best use practices on commercial colonies of Bombus impatiens on crops in Delaware | $5,696       | Dr. Deborah Delaney  
University of Delaware  
Jacquelyn Marchese  
University of Delaware                           |

Total funding from the USDA SARE program to Delaware  
$1,224,589

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).