

## 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 \$397 million to more than 8,689 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...

# Massachusetts

Project Highlight: The Weed Weasel Prototype: Electric Walking Tractor

Jan Yoder of Woodmetalcanvas in Westport, MA, collaborated with local farmers to build, test and refine a light electric walking tractor to increase production efficiency. Weed management is crucial on vegetable farms of all scales, but it can be particularly challenging for small-scale farms as hand weeding is time consuming and tractor cultivation may not fit with smaller acreages. To address this, Yoder developed the Weed Weasel, an electric walking tractor that can be used for quickly cultivating beds of vegetables and other produce.

With the help of a SARE grant, Yoder was able to fund the construction and testing of three Weed Weasels, as well as to provide support to local farms in their adaptation and use of the Weed Weasel. The trial runs Yoder did during this project showed that the Weed Weasel is safe, creates no pollution in the field and minimizes soil compaction, making it the perfect tool to assist farmers in creating more sustainable and efficient crop production. The success of the Weed Weasel drove Yoder to develop step-by-step instructions that farmers can use to build their own Weed Weasel.

For more information on this project, see [sare.org/projects](http://sare.org/projects) and search for project number ONE18-324.

## SARE in Massachusetts

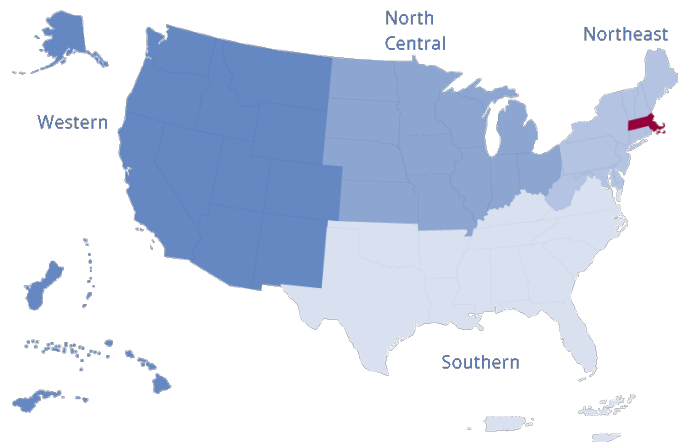
[northeast.sare.org/sare-in-your-state/massachusetts](http://northeast.sare.org/sare-in-your-state/massachusetts)

**\$2,676,514**  
**in total funding**

**48 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 Massachusetts

## Grants awarded 2019-2024

### Total awards: **48 grants**

- 16 Farmer/Rancher
- 5 Research and Education
- 3 Professional Development Program
- 9 On Farm Research/Partnership
- 9 Graduate Student
- 6 Research Only

### Total funding: **\$2,676,514**

- \$319,970 Farmer/Rancher
- \$793,981 Research and Education
- \$379,293 Professional Development Program
- \$208,916 On Farm Research/Partnership
- \$132,172 Graduate Student
- \$842,182 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:

**10,691 farmers participated in a SARE-funded project**

**2,378 farmers reported a change in knowledge, awareness, skills or attitude**

**541 farmers changed a practice**



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

## 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/massachusetts](https://northeast.sare.org/state-pages/massachusetts) to learn more.

Rachel Bspuda  
University of Connecticut  
(203) 407-3172  
[rachel.bspuda@uconn.edu](mailto:rachel.bspuda@uconn.edu)

Clem Clay  
University of Massachusetts  
(413) 545-5021  
[cclay@umext.umass.edu](mailto:cclay@umext.umass.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](https://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.



# AGRICULTURE PROJECTS FUNDED IN MASSACHUSETTS

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

Massachusetts has been awarded \$10,554,603 grants to support 249 projects, including but not limited to, 47 research and/or education projects, 16 professional development projects and 102 producer-led projects. Massachusetts has also received additional SARE support through multi-state projects.

## RESEARCH AND EDUCATION GRANTS

Project #	Project Title	SARE Support	Project Leaders
LNE21-422	Teaching Generative Apiary Practices for Effective Beekeeping in the Northeast	\$124,034	Angela Roell They Keep Bees (Formerly Yard Birds Farm & Apiary)
LNE20-394	Useful Benchmarks: Skills, Data, and Peer-to-Peer Learning for Farm Success	\$249,485	Margaret Christie Community Involved in Sustaining Agriculture (CISA)
LNE20-402	Improving Production and Yield of Winter Greens in the Northeast	\$84,948	Susan Scheufele UMass Extension Vegetable Program
LNE20-399	Season Extension Strategies and Profitability in Dairy and Livestock Operations in New England	\$236,718	Masoud Hashemi University of Massachusetts Amherst
LNE19-376	Growing the Specialty Mushroom Industry in the Northeast	\$98,796	Willie Crosby Fungi Ally
LNE18-365	Increasing Grower Adoption of Ecologically-based Pest Management Strategies to Improve Quality and Yield of Brassica Crops	\$198,754	Susan Scheufele UMass Extension Vegetable Program
LNE15-340	Building resilience and sustainability in dairy forage systems in New England	\$194,161	Masoud Hashemi University of Massachusetts Amherst
LNE12-315	Towards sustainable disease management in northeastern apples using risk forecasts and cultural controls	\$201,078	Daniel Cooley Stockbridge School of Agriculture
LNE12-316	Tile drainage in Massachusetts cranberry production: Implementation and best management practices	\$205,836	Dr. Carolyn DeMoranville UMass Amherst Cranberry Station

LNE11-310	Farm Financing: Measuring Profitability and Success	\$79,720	Dorothy Suput The Carrot Project
LNE10-297	Expanding winter harvest and sales for New England vegetable crops	\$193,557	Ruth Hazzarad University of Massachusetts
LNE09-284	Outreach, training, and education for small-scale poultry producers using MPPUs in Massachusetts	\$142,072	Jennifer Hashley Trustees of Tufts College / New Entry Sustainable Farming Project
LNE09-285	Nutrient management on organic vegetable farms: A research and education program for sustainable soil fertility management in southern New England	\$148,375	Dr.Beth Hooker Hampshire College Beth Hooker Mount Holyoke College
LNE08-270	Northeast Organic Wheat; an extension program for on-farm crop improvement in organic systems and local market partnerships	\$162,845	Eli Rogosa Heritage Grain Conservancy
LNE07-255	On-farm workstays: Creating safe and lawful on-farm training opportunities in the Northeast	\$63,171	Judith Fuller New England Small Farm Institute
LNE07-257	Assessing pasture grasses, legumes and pasture blends for varying soil conditions in New England and Pennsylvania	\$211,989	Dr.Stephen Herbert UMass
LNE07-259	Farms Forever: A partnership approach to increasing farm transfer and succession in southeastern Massachusetts	\$122,212	Bridget Alexander Southeastern Massachusetts Agricultural Partnership, Inc. Sarah Kelley SE Mass. Agricultural Partnership (SEMAP) Jay Coburn Southeastern Massachusett
LNE06-238	Conserving end-of-season N with effective seeding dates for cover crops based on fall growing degree days	\$85,953	Dr.Stephen Herbert UMass
LNE06-250	Strengthening farmstead cheese businesses through risk assessment, reduction, monitoring, testing, and technical support	\$151,682	Dr.Lynda Brushett Cooperative Development I

LNE05-217	Increasing the sustainability of Massachusetts cranberry production through cultural management of the bog habitat	\$169,885	Dr.Carolyn DeMoranville UMass Amherst Cranberry Station
LNE05-220	Increasing the use of sustainable forestry by farmers who have woodlots	\$112,625	Arthur Eve Massachusetts Woodlands Cooperative, LLC
LNE05-223	New Entry Sustainable Farming Project transitioning farmer program	\$133,468	Jennifer Hashley Trustees of Tufts College / New Entry Sustainable Farming Project
LNE05-229	Implementing a sustainable greenhouse health maintenance program	\$83,637	Tina Smith University of Massachusetts
LNE04-198	Integrated and Sustainable Wine Grape Production in Southern New England	\$100,000	William Coli University of Massachusetts Extension
LNE04-202	Achieving High Quality Brassica Crops on Diversified Vegetable Farms	\$126,956	Ruth Hazzarad University of Massachusetts Kimberly Stoner Connecticut Agricultural Experiment Station
LNE02-157	Educating Northeast New Farmers about Farm Equipment - Mechanization	\$119,491	Judith Fuller New England Small Farm Institute
LNE02-161	Nutrient Recycling in Urban Agriculture	\$92,230	Judy Lieberman Brookwood Community Farm
LNE02-163	Energy - Small Farm Sustainability	\$88,548	Nancy Nysten CET (Center for Ecological Technology)
LNE02-165	Marketing Ecologically Grown Produce in the Mainstream Marketplace	\$150,000	Michael Rozyne Red Tomato
LNE02-169	Northeast Organic Farming Association Organic Practices Handbook Series	\$33,014	Jonathan von Ranson
LNE01-142	Providing Farmers with New Brassica Species - Management Options of Flea Beetles for Expanding Markets in Mass. - Conn.	\$135,632	Frank Mangan University of Massachusetts
LNE00-135	Toward Sustainability in Northeastern Apple Production: Orchard Ecosystem Architecture, Key Pests, and Cultivar Selection	\$134,030	Daniel Cooley Stockbridge School of Agriculture

LNE00-136	CSA in the Northeast: Growing the Movement	\$49,063	Kathy Ruhf New England Small Farm Institute
LNE99-118	Implementing a Biointensive Strategy for Caterpillar Control in Sweet Corn	\$68,265	Ruth Hazzarad University of Massachusetts
LNE99-119	Training - Supporting the Next Generation of Northeast Sustainable Farmers	\$108,449	Kathy Ruhf New England Small Farm Institute
LNE98-107	Integrated Management of Cranberry Insect, Weed - Disease Pests Using Fall - Spring Floods	\$130,000	Dr.Carolyn DeMoranville UMass Amherst Cranberry Station
LNE98-112	Strengthening CSA in the Northeast: Next Steps	\$57,733	Kathryn Ruhf Northeast Sustainable Agriculture Working Group
LNE97-090	Integrating High-Density Orchards and Biointensive Integrated Pest Management Methods in Northeastern Apple Production	\$121,535	Daniel Cooley Stockbridge School of Agriculture
LNE97-092	Chinese Medicinal Herbs as Crops for the Northeast	\$60,716	Lyle E. Craker University of Massachusetts
LNE96-076	Outreach and Training for On-farm Composting	\$60,091	John Majercak Center for Ecological Technology
LNE95-063	Community Supported Agriculture: Research and Education for Enhanced Viability and Potential in the Northeast	\$159,000	Daniel A. Lass University of Massachusetts
ANE94-021	Water Management to Minimize Pesticide Inputs in Cranberry Production (LNE94-050)	\$96,940	Dr.Carolyn DeMoranville UMass Amherst Cranberry Station
LNE94-050	Water Management to Minimize Pesticide Inputs in Cranberry Production (ANE94.21)	\$96,940	Dr.Carolyn DeMoranville UMass Amherst Cranberry Station
LNE92-031	Demonstrating the Economic and Environmental Advantages of Legume Cover Crops to New England Growers	\$100,000	Dr.Stephen Herbert UMass

<a href="#">LNE91-028</a>	The Northeastern Farmer-to-Farmer Information Exchange	\$48,168	Margaret Christie NOFA Interstate Council
<a href="#">LNE90-026</a>	Alternative Strategies for Cranberry Production in the Northeast	\$128,458	Anne Averill University of Massachusetts
<a href="#">LNE88-005</a>	Cover Crops for New England Vegetable Growers: On-Farm Research, Economic Analysis and Outreach	\$170,000	Ralph DeGregorio New Alchemy Institute

#### RESEARCH ONLY GRANTS

<b>Project #</b>	<b>Project Title</b>	<b>SARE Support</b>	<b>Project Leaders</b>
<a href="#">LNE22-458R</a>	Using Unoccupied Aerial Vehicles for Application of Fertilizers to Cranberry Bogs in Massachusetts	\$69,724	Brian Wick Cape Cod Cranberry Growers Association
<a href="#">LNE21-433R</a>	Identifying Critical Criteria to Develop a Decision-making Model for Implementing Late Water Floods in Cranberry Production	\$189,340	Dr.Leela Uppala University of Massachusetts
<a href="#">LNE21-424R</a>	Testing the Potential for Cut Flower Pollen to Improve Bumble Bee Health	\$98,539	Dr.Lynn Adler University of Massachusetts Amherst
<a href="#">LNE19-386R</a>	Creative Farm Business Models to Address Employee Hiring, Training, and Management Barriers	\$159,988	Kevin Cody New Entry Sustainable Farming Project Jennifer Hashley Trustees of Tufts College / New Entry Sustainable Farming Project
<a href="#">LNE19-390R</a>	Reframing the Sustainable Farming Narrative to Help Northeast Farmers Effectively Activate Consumers	\$175,412	Michael Rozyne Red Tomato
<a href="#">LNE19-393R</a>	Farming Tautog as a High Value Fish while Reducing Invasive Crab Populations	\$149,179	Dr.Daniel Ward Ward Aquafarms, LLC
<a href="#">LNE18-370R</a>	Extending the Season: New Frozen Products for a New Market	\$199,524	Amanda Kinchla University of Massachusetts Amherst

#### PROFESSIONAL DEVELOPMENT PROGRAM GRANTS

<b>Project #</b>	<b>Project Title</b>	<b>SARE Support</b>	<b>Project Leaders</b>
<a href="#">ENE23-183</a>	Service Provider Succession Planning Programs To Address Land Access Inequities In The Northeast	\$149,554	Carmen Mouzon The Farm School

ENE22-177	Designing Multifunctional Buffers to Improve Farm Viability in the Berkshire-Taconic Region of MA, NY, and CT	\$71,474	Ben Crockett Berkshire Agricultural Ventures
ENE20-162	Farm Mentorship Training and Support Groups for Educators of Aspiring and Beginning Farmers	\$158,265	Jennifer Hashley Trustees of Tufts College / New Entry Sustainable Farming Project
ENE15-140	Unifying resistance management education for vegetable and fruit production in the Northeast	\$91,512	Dr.Hilary Sandler UMass Cranberry Station
ENE14-132	Improving the viability of beginning farm enterprises by strengthening Northeastern farm incubator projects	\$163,342	Jennifer Hashley Trustees of Tufts College / New Entry Sustainable Farming Project
ENE08-106	Beginning Farmer Business Training and Education Partnership Project	\$135,630	Judith Fuller New England Small Farm Institute
ENE05-090	Strengthening Farmers' Markets Through Advanced Business Training and Mentoring	\$62,600	Dr.Lynda Brushett Cooperative Development I
ENE05-092	Northeast Network of Immigrant Farming Projects	\$80,904	Jennifer Hashley Trustees of Tufts College / New Entry Sustainable Farming Project
ENE05-093	Demonstrating effective grass farming practices	\$82,720	Matthew LeRoux New England Livestock Alliance
ENE04-087	Building Professional Support for Institutional Purchasing - Buy Local Campaign Programs	\$124,376	Kathryn Ruhf Northeast Sustainable Agriculture Working Group
ENE02-065	Cooperation Works Professional Development Program	\$62,600	Lynn Benander Cooperative Development Institute
ENE02-071	Leadership Training on Farmland Conservation for New England and New York	\$57,513	Julia Freedgood American Farmland Trust
ENE01-060	Neighborhood Open Spaces Training	\$30,000	Elizabeth Johnson Boston Natural Areas Network
ENE01-062	Training Agricultural Professionals to Meet the Needs of Small Farmers - phase II	\$112,539	David Smith Cornell University Kathy Ruhf New England Small Farm Institute



ENE98-039	Northeast Training - Support Network for Agriculture Development	\$132,392	Kathryn Ruhf Northeast Sustainable Agriculture Working Group
ENE97-034	CSA - Building a Future for Farming in the Northeast	\$25,190	Elizabeth Keen Community Supported Agriculture of North America (CSANA)

**FARMER/RANCHER GRANTS**

<b>Project #</b>	<b>Project Title</b>	<b>SARE Support</b>	<b>Project Leaders</b>
FNE23-058	Maximizing Bay Scallop Seed Performance in Bottom Cage and Suspended Net Culture for Subtidal Aquaculture Farms	\$27,202	Dan Martino Martino's Seafood, LLC
FNE23-061	Wintering Honey Bee Colonies With & Without Upper Entrances: Comparing Internal Temperature, Humidity, Food Consumption, Spring Cluster Size & Survival	\$7,035	Amy Musante Musante Farm
FNE23-047	Farmer to Farmer Agroforestry Guidebook for the Northeast	\$30,000	Jono Neiger Regenerative Design Group/Big River Chestnuts
FNE22-019	Gracilaria Seaweed Aquaculture Farm Grow-out, Harvest and Marketing	\$27,290	Dan Martino Martino's Seafood, LLC
FNE22-018	The Oysterbot: Developing a Ropeless Bottom Cage Retrieval System for Nearshore Oyster Farms	\$22,996	Dr. DALE LEAVITT Blue Stream Shellfish LLC
FNE22-025	Transferred Mulch System for Organic Reduced Tillage Vegetable Production	\$29,587	Jeremy Barker Plotkin Simple Gifts Farm
FNE22-022	Farm and Conservation Land for Black, Indigenous, and People of Color Self Determination and Sovereignty in Rural Massachusetts	\$29,975	Carmen Mouzon The Farm School
FNE22-009	Establishment and Evaluation of Founder Plots for Native Seed Production	\$29,854	Alexis Doshas Native Plant Trust
FNE21-997	Using Plant Sap Analysis to Develop an Optimal Nutrient Profile for Lowbush Blueberries	\$14,985	Meredith Wecker The Benson Place

FNE21-994	Cardboard Chips as a Farm Input	\$14,484	Ronald Smolowitz Coonamesett Farm
FNE21-989	Managing and Monitoring Bottom Cage Placement in Deep Water Oyster Culture	\$13,570	Dr.DALE LEAVITT Blue Stream Shellfish LLC
FNE20-959	Protecting European Grape Vines from Cold Weather Damage in New England	\$13,698	ian modestow Black Birch Vineyard
FNE19-916	Evaluation of Electrolyzed Water as a Low-Cost, Organic Method to Reduce Contamination in Indoor Production of Gourmet Mushrooms	\$15,000	Elizabeth Almeida Fat Moon LLC
FNE19-926	The Impact of Mushroom Extracts on Honey Bee Health	\$15,000	Willie Crosby Fungi Ally
FNE19-929	Bringing Local Back to Kosher: Continuing Pioneering Research to Create a Commercial Processing Facility	\$15,000	Robert Friedman Robariah Farms
FNE19-934	Determining Growth Potential of the Eastern Oyster by Volumetric Comparison Utilizing Soda Bottle Upwellers	\$14,294	Cheryl James Aquacultural Research Corporation
FNE18-890	Developing Commercial Cordyceps Production	\$14,996	Willie Crosby Fungi Ally
FNE18-893	Laser Scarecrow Prototype	\$14,973	Kenneth Elliot Elliot Farm
FNE18-902	Adaptation of No-Till Transplanting as an Innovative Method to Improve Cranberry Farm Sustainability	\$14,903	Jeffrey LaFleur Mayflower Cranberries, LLC
FNE18-904	Determining Proper Feeder Space Requirements for Pasture-Raised Laying Hens and Broilers	\$9,566	Peter Lowy Codman Community Farms
FNE18-912	Effectiveness of Mixed Perennial Groundcovers in Establishing Hazelnut Hedgerow Systems in the Northeast	\$15,000	Seva Water Nutwood Farm

FNE18-913	System Modifications and Varieties for Extending the Organic Strawberry Plasticulture Ripening Season in MA	\$12,303	Ryan Voiland Red Fire Farm
FNE17-866	Combining insecticide bait with visual traps for apple maggot control	\$8,509	Dana Clark Clark Brothers Orchard
FNE16-847	Improving yields of shiitake cultivation in the Northeast by selecting appropriate strains	\$14,976	Willie Crosby Fungi Ally
FNE16-852	Effective use of alfalfa as a trap crop for potato leafhoppers in hops	\$14,535	Nathan L'Etoile Four Star Farms, Inc.
FNE16-859	Pigs on pasture: An assessment of pasture health, pork quality, and ecosystem rebound after rotational grazing	\$14,752	Pete Solis Hampshire College
FNE16-861	Expanding sustainable shellfish aquaculture: Optimizing growth and survival in a bay scallop nursery system	\$14,940	Dr.Daniel Ward Ward Aquafarms, LLC
FNE15-818	A performance comparison of three honeybee nucleus colony configurations in Massachusetts	\$14,987	Daniel Berry Invisible Cities Apiary
FNE15-825	Alternative growing practices for oyster mushroom cultivation in the Northeast	\$14,095	Willie Crosby Fungi Ally
FNE15-827	Bringing local back to kosher: A new pathway for sustainable poultry processing	\$13,475	Robert Friedman Robariah Farms
FNE15-835	Evaluating Malting Barley Production in New England Using a Winterkill Cover Crop Cocktail Combined With Flame Weeding and No Till Planting	\$14,936	Matthew Zarif Carter & Stevens Farm
FNE14-792	A comparison of traditional nitrogen and nutrient-dense fertilization regimes in organic potato production	\$12,058	Jeremy Barker Plotkin Simple Gifts Farm
FNE14-795	Cultivation of gourmet mushrooms using brewer's spent grain	\$14,997	Mycoterra Farm Mycoterra Farm

FNE14-805	Evaluating the efficacy of multiple foliar sprays for soil health, pasture quality, and cow productivity	\$14,913	Suzanna Konecky Cricket Creek Farm
FNE13-772	Breeding program for novel disease-resistant cider apple cultivars	\$8,060	Jonathan Carr Carr's Ciderhouse
FNE13-778	Martha's Vineyard fibershed project	\$6,987	Rebecca Gilbert Native Earth Teaching Farm Elizabeth Toomey
FNE13-790	Sugar kelp and triploid oyster production to promote sustainable integrated multitrophic aquaculture	\$14,970	Dr.Daniel Ward Ward Aquafarms, LLC
FNE12-748	Evaluation of inexpensive wireless sensor networks for managing small vegetable farms	\$14,951	Larry Manire Databasics Dan Kaplan Brookfield Farm
FNE12-750	Ivermectin residue in vegetable plants and compost	\$8,976	Amylynn Kemp Alpaca Obsession, LLC
FNE12-751	Effects of controlled disturbance within early-successional northeastern forest habitat: Evaluating soil quality, plant production, and economic feasibility	\$14,976	Kathleen Kerivan Bug Hill Farm
FNE12-761	Mas-D-Tec mastitis tool for dairy goats	\$9,950	Elizabeth Mulholland Valley View Farm
FNE12-765	Wireless greenhouse monitor and alarm	\$9,992	Benjamin Shute Hearty Roots Community Farm
FNE12-766	Annual artemisia as a high-value crop and for weed control	\$7,168	Dwight Sipler small farm
FNE12-769	Subtidal oyster aquaculture: Creating safe and efficient production techniques through sustainable innovations	\$13,222	Dr.Daniel Ward Ward Aquafarms, LLC
FNE11-728	Winter Grazing in the Northeast	\$10,322	Ridge Shinn Out of the Woods Farm

FNE10-677	Soil and Plant Properties in Cardboard Mulch Prepared No-Till Beds	\$6,107	Rachel Scherer Heritage Fields Farm Richard Baruc Seeds of Solidarity Farm
FNE10-685	"Turfing" in renovation of cranberry bogs	\$12,700	Jennifer Friedrich The Edible Yard
FNE10-686	Entrust vs. Pyganic Insecticide in Perimeter and Internal Trap Crops in Organic Winter Squash	\$5,207	Nancy Hanson Hampshire College
FNE09-659	Perimeter and Internal Trap Cropping in Organic Winter Squash	\$4,271	Nancy Hanson Hampshire College
FNE08-637	Perimeter and internal trap cropping in organic winter squash	\$4,846	Nancy Hanson Hampshire College
FNE08-642	Integrating poultry and sheep on vegetable cropping land for increased economic return and enhanced fertility	\$7,807	Peter Lowy Pete and Jens Backyard Birds
FNE07-596	Greenhouse Ginger Cultivation in the Northeast - Part II	\$8,800	Melissa Bahret Old Friends Farm
FNE06-564	Greenhouse ginger cultivation in the Northeast	\$7,282	Melissa Bahret Old Friends Farm
FNE06-574	Winter squash perimeter trap cropping for the organic grower	\$5,258	Nancy Hanson Hampshire College
FNE06-578	Innovative methods of capturing solar heat for earlier harvests	\$6,963	Paul Lacinski Sidehill Farm
FNE06-585	Proposal to study the influence of winter hive humidity on honey bee survival in western Massachusetts	\$8,455	Jonathan Parrott
FNE05-542	Sub-tidal aquaculture of surf clams	\$9,365	John Baldwin Seafood Divers, Inc
FNE05-543	Control of chalkbrood in honeybees with essential oils	\$6,671	Daniel Conlon Warm Colors Apiary

FNE05-552	Cover crops for improving soil health in sweet corn	\$2,186	Peter Lowy Pete and Jens Backyard Birds
FNE05-560	Effects of hive wrapping strategies on honey bee survival in western Massachusetts	\$4,500	Jonathan Parrott
FNE04-506	Testing Three Methods of Introducing Russian Honeybee Queens into Italian Honeybee Packages	\$9,530	Daniel Conlon Warm Colors Apiary
FNE04-535	Development of an Intertidal Upweller Nursery for Shellfish Aquaculture	\$5,730	Bethany Walton Sunken Treasures Shellfish Company
FNE03-452	Selecting Heirloom Tomato Varieties for Disease Resistance	\$5,150	Jeremy Barker-Plotkin
FNE03-463	Bay Scallop Aquaculture and Market Development	\$9,224	Robert Garrison Wampanoag Aquinnah Shellfish Hatchery
FNE03-474	Comparative Study of Weed Management Tools in Vegetables and Berries: Old and New	\$3,642	Timothy Laird MA Audubon Society, Inc
FNE03-480	Evaluation of Liquefied Manure from the Cranberry Bog/Partitioned Aquaculture System Fish Farm Applied as a Fertilizer for Land-Based Crops	\$5,500	Brad Morse DoubleM Cranberry Company, Inc
FNE03-484	Silvopasture in the Northeast	\$6,243	John O'Meara O'Meara Family Farm
FNE03-490	Performance Evaluation of Different Strains of Honeybees in the Northeast	\$1,845	M. Spensley Rickert
FNE03-499	Sheep Pasture Improvement and Planting for Drought Resistance	\$2,522	Richard Tripp
FNE02-418	High-Density: Container-Grown Raspberry Production	\$9,493	William Hamilton
FNE02-433	Sustainable Practices for the Field Grown Perennial Cut Flower Grower	\$6,630	Cary Quigley

FNE02-443	Production of Nutrient Enhanced Compost and Compost Tea Using Vermiculture Technology	\$7,905	Ed Stockman Summit Farm
FNE01-355	Heirloom Tomato Variety Trials	\$2,600	Jeremy Barker-Plotkin
FNE01-372	Comparison of Standard Broiler Chicken Breeds on Pasture	\$2,750	Don Franczyk
FNE01-386	Education About Sustainable Pest Management with Hmong Farmers	\$5,100	Maria Moreira Manny's Dairy Farm
FNE01-387	Using Hardwood Ramial Woodchips as a Time-Saving Mulch for Weed Control	\$3,908	Michael Pollitt
FNE01-388	Low-Input Vine Crop Production	\$1,915	M. Spensley Rickert
FNE01-393	Economic Feasibility of Growing Organic Cherry Tomatoes in High Polytunnels for Direct Market Venues	\$1,300	Ed Stockman Summit Farm
FNE01-399	Field Testing of Modified New Zealand Oyster Cylinders	\$6,400	Rulon Wilcox
FNE00-292	Biological control of tomato foliar diseases	\$1,320	Jeremy Barker-Plotkin
FNE00-325	Multipurpose windbreaks for the protection of vegetable crops and production of fruit and nut crops.	\$3,500	Jeremy Barker-Plotkin
FNE00-347	Marketing database for ethnic markets.	\$5,200	Shannon Rice
FNE00-350	Enhancing the growth of lavender.	\$3,839	Denise Schwartz
FNE99-234	"Green" Greenhouse: An Affordable, Energy Efficient Greenhouse for Cold Climates	\$2,511	Colleen Caffery
FNE99-256	Growing Cranberry Specific Parasitoids for Application on Organic Cranberry Bogs	\$2,675	Kristine Keese Cranberry Hill Farm

FNE99-280	A Low-Cost Method of Trapping Out Apple Maggot Flies	\$1,062	Maurice Tougas
FNE98-215	Testing-Wetness Hour Models to Predict Need for Summer Fungicide in New England	\$1,223	Thomas Clark
FNE97-160	Echinacea Field Trials	\$1,730	Angela Baker
FNE97-164	High Tunnel Strawberries for New England	\$2,720	Doug Coldwell
FNE97-174	Regulation of lateral branching in Genovese Basil ( <i>Ocimum basilicum</i> ) via application of bacterial spray	\$1,152	George Kellett
FNE97-184	Using Dogs to Control Bird Depredation of Blueberries	\$2,900	Arthur and Rudolph Valonen
FNE96-131	High Density Planting for Weed, Disease and Pest Management in Commercial Strawberry Production	\$8,381	Clifford Hatch
FNE96-141	The Use of Ethylene as a Chemical Pinching Agent on Floricultural Crops	\$5,000	Peter Konjoian
FNE96-153	Commercializing State-of-the-Art Thermal Aquatic Technology for Orchard Weed, Fungi, and Insect Control	\$5,670	Timothy Smith
FNE95-087	Organic Weed Management in Commercial Strawberry Production	\$6,215	Clifford Hatch
FNE95-094	The Use of Ethylene as a Chemical Pinching Agent on Floricultural Crops	\$3,750	Peter Konjoian
FNE95-102	Development of Woodlands Growing Method for New England Native Wildflowers - Medicinal Plants	\$1,850	Susan Minnich Coles Brook Farm
FNE94-041	Trough Sub-Irrigation Versus Traditional Overhead Watering	\$2,712	Stacey Chapley
FNE94-049	Demonstration of Reduced Fungicides for Control of Cranberry Fruit Rot	\$1,180	Clark Griffith



FNE94-070	Organic "Bag Culture" of Greenhouse Peppers	\$5,000	Miranda Smith
FNE93-003	Integrated Crop Management for Greenhouse Bedding Plants with Emphasis on Biological Control	\$1,199	Don Ziegler
FNE93-020	Demonstrating a Sustainable Agricultural System by Using Beneficial Insects	\$1,306	James I. Munger

#### GRADUATE STUDENT GRANTS

Project #	Project Title	SARE Support	Project Leaders
GNE22-300	Performance and agronomic management of crabgrass to meet summer forage shortfalls in the Northeast	\$14,955	Masoud Hashemi University of Massachusetts Amherst Arthur Siller University of Massachusetts - Amherst
GNE22-301	Evaluating decomposition trends and effects of fall planted annual CC on spring soil active carbon in the Northeast	\$14,981	Masoud Hashemi University of Massachusetts Amherst Alexandra Smychkovich University of Massachusetts Amherst
GNE21-256	Evaluating an attract and kill strategy to manage Tortricid moth pests using plant volatile-based lures and the biopesticide Bacillus thuringiensis va	\$13,411	Dr. Jaime Pinero University of Massachusetts Ajay Giri University of Massachusetts
GNE21-264	Interactive effects of pesticides, drought, and pathogens on the common eastern bumble bee <i>Bombus impatiens</i> .	\$15,000	Dr. Lynn Adler University of Massachusetts Amherst Deicy Munoz Agudelo University of Massachusetts
GNE20-245	What Makes a Local Food System Resilient? Lessons from Small and Midsize Farms during the COVID-19 Pandemic	\$14,654	Elizabeth Brabec University of Massachusetts Amherst Kristen Whitmore University of Massachusetts Amherst
GNE20-238	Evaluating Entomopathogenic Nematodes for Biological Control of Apple Maggot Fly under Field Conditions	\$14,770	Dr. Jaime Pinero University of Massachusetts Dorna Saadat University of Massachusetts
GNE20-229	Demonstrating the Importance of Behavior and Feed Delivery on the Growth Performance of Tautog ( <i>Tautoga onitis</i> ) in Recirculating Aquaculture Systems	\$14,537	Dr. Pinnguo He University of Massachusetts Dartmouth School for Marine Science and Technology Michael Coute University of Massachusetts Dartmouth

<a href="#">GNE19-193</a>	Understanding Agrihoods: An Exploration into the Growing Trend of Farm-to-Table Communities across the United States	\$14,932	Elizabeth Brabec University of Massachusetts Amherst Benjamin Breger University of Massashusetts, Amherst
<a href="#">GNE19-200</a>	Identifying Mechanisms behind Interacting Stressors on Wild Bees to Inform Pollinator-Friendly Agricultural Landscapes	\$14,932	Dr.Lynn Adler University of Massachusetts Amherst Alison Fowler University of Massachusetts Amherst
<a href="#">GNE17-161</a>	Parasite mitigation strategies in bay scallop aquaculture	\$14,575	Dr.Jennifer Koop University of Massachusetts Dartmouth Harrison Tobi University of Massachusetts Dartmouth
<a href="#">GNE16-114</a>	Improving basil downy mildew control with cultural and biological methods	\$14,999	Dr.Robert Wick University of Massachusetts Amherst Kelly Allen University of Massachusetts Amherst
<a href="#">GNE15-102</a>	Dual purpose cover crops for grazing season extension, nematode management, and improved resiliency on dairy farms	\$15,000	Masoud Hashemi University of Massachusetts Amherst Sam Corcoran University of Massachusetts
<a href="#">GNE14-075</a>	Physiochemical and soil biota response to biochar in agricultural soils	\$13,022	Masoud Hashemi University of Massachusetts Amherst Dr.Baoshan Xing University of Massachusetts Amherst Emily Cole University of Massachusetts Amherst
<a href="#">GNE14-078</a>	Fava beans: A new multipurpose crop for New England	\$14,995	Masoud Hashemi University of Massachusetts Amherst Fatemeh Etemadi umass
<a href="#">GNE14-080</a>	Integrating no-till and forage radish cover crops for sustainable early sweet corn production	\$14,955	Masoud Hashemi University of Massachusetts Amherst Julie Fine Univ. of Massachusetts, Amherst
<a href="#">GNE13-058</a>	Costs and returns to New England farmers in the farm-to-institution supply chain	\$14,745	Daniel A. Lass University of Massachusetts Dr.Nathalie Lavoie University of Massachusetts, Amherst Dr.Jill Fitzsimmons University of Massachusetts Amherst
<a href="#">GNE13-061</a>	Reducing nitrate contamination of groundwater using cover crop mixtures and tailoring nitrogen fertilizer	\$14,943	Dr.Allen V. Barker University of Massachusetts Dr.Emad Jahanzad Pennsylvania State University

GNE13-066	Management practices for production of local malting barley in Northeast	\$13,967	Masoud Hashemi University of Massachusetts Amherst Caroline Wise University of Massachusetts, Amherst
GNE12-040	Developing a sustainable automated spring frost cycling protection method in cranberry production	\$14,223	Dr.Peter Jeranyama UMass Cranberry Station Faith Ndlovu University of Massachusetts Amherst
GNE12-048	Community supported agriculture and the complexities of survival	\$15,000	Dr.Juliet Schor Boston College Robert Wengronowitz Boston College
GNE11-018	Hand-held Flame Cultivation: Developing a sustainable weed control method in cranberry production	\$14,992	Dr.Hilary Sandler UMass Cranberry Station Katherine Ghantous UMass Cranberry Station

**ON FARM RESEARCH/PARTNERSHIP GRANTS**

<b>Project #</b>	<b>Project Title</b>	<b>SARE Support</b>	<b>Project Leaders</b>
ONE22-422	Closing the Mushroom Production Loop: Evaluating Soil Microbe Changes Following Field Application of Compost Inoculated with Spent Mushroom Substrate	\$24,712	Christine Manuck NOFA/Mass
ONE22-411	Tracking Vegetable Yields and Labor in a No-Till Perennial Clover Living Mulch System	\$14,880	Lincoln Fishman Sawyer Farm
ONE21-389	The Creation of Two Alley Cropping Demonstration Sites as Cases Studies on Massachusetts Farms	\$29,496	Meghan Giroux Interlace Commons
ONE20-378	Improving Access to Soil Carbon Proxy Testing: Training Educators to Monitor Soil Health	\$29,266	Christine Manuck NOFA/Mass
ONE20-374	Evaluation of New Hybrid Cranberry Cultivars with Improved Fruit Quality, Yield and Disease Resistance	\$24,828	Dr.Giverson Mupambi University of Massachusetts
ONE20-357	Establishing a Cooperative Farm Share Program in the Massachusetts Hilltowns	\$25,405	J. Huntington Chase Hilltown Community Development
ONE19-326	Identifying the Most Effective and Accessible Queen Rearing Method to Strengthen Northeast Beekeeping Practices	\$17,879	Hannah Whitehead University of Massachusetts Amherst

ONE19-332	Improving Producer Cooperatives: Best Practices in Marketing, Distribution and Governance	\$23,750	Margaret Christie Community Involved in Sustaining Agriculture (CISA)
ONE19-354	Measuring Soil Health and Carbon Sequestration in an Emerging Chestnut Agroforestry System	\$18,700	Keith Zaltzberg Regenerative Design Group
ONE18-311	Massachusetts Employee Manual Template: A Tool for Improving Employee Management on Farms	\$15,000	Margaret Christie Community Involved in Sustaining Agriculture (CISA)
ONE18-314	Training Beginning Farmers in Crop Production Skills to Build Climate Resilience	\$15,000	Jennifer Hashley Trustees of Tufts College / New Entry Sustainable Farming Project
ONE18-324	The Weed Weasel Prototype: Electric Walking Tractor	\$14,480	Jan Yoder Woodmetalcanvas
ONE18-325	Improving Ground Cover Selection and Competition Management in the Establishment of Productive Riparian Agricultural Buffers	\$14,995	Keith Zaltzberg Regenerative Design Group
ONE17-290	Legal guidelines for on-farm labor and learning	\$15,000	Jennifer Hashley Trustees of Tufts College / New Entry Sustainable Farming Project
ONE17-300	Evaluating the methods, effects, and economics of interplanting oyster mushrooms with vegetable crops	\$14,877	Geunhwa Jung University of Massachusetts Amherst
ONE16-255	Building loyalty: Testing the efficacy of farmers market loyalty programs to engage the community and enhance sales	\$14,999	Margaret Christie Community Involved in Sustaining Agriculture (CISA)
ONE16-261	Connecting with institutional markets for World PEAS Food Hub participants	\$15,000	Jennifer Hashley Trustees of Tufts College / New Entry Sustainable Farming Project
ONE16-277	Grain bikes: Human-powered seed processing tools for small farms	\$13,734	Jan Yoder Woodmetalcanvas
ONE16-281c	Nitrogen contribution from cover crops for vegetable crop uptake	\$11,067	Katie Campbell-Nelson Cornell Cooperative Extension, Columbia and Greene Counties

ONE15-231	Evaluation of biological fungicides to control diseases of spinach in winter high tunnels	\$14,982	Susan Scheufele UMass Extension Vegetable Program Katie Campbell-Nelson Cornell Cooperative Extension, Columbia and Greene Counties
ONE15-233	Supplying Demand: Optimizing Improvements to the Local Food Value Chain in Western Massachusetts	\$14,974	Margaret Christie Community Involved in Sustaining Agriculture (CISA)
ONE15-236	Crop quality and food safety support for World PEAS Food Hub participants	\$15,000	Jennifer Hashley Trustees of Tufts College / New Entry Sustainable Farming Project
ONE15-248	Making it happen: Profitability and success	\$14,973	Dorothy Suput The Carrot Project
ONE14-207	Expanding the Beginning Farmer Network of Massachusetts	\$14,982	Jennifer Hashley Trustees of Tufts College / New Entry Sustainable Farming Project
ONE14-209	Coppicing for Northeastern farms: Farmer feedback and coppice system case studies	\$14,996	Dave Jacke Dynamics Ecological Design
ONE14-227	Profitability in farm-to-institution sales in Massachusetts	\$14,891	Lisa Damon Mass. Farm to School
ONE13-183	Pastured poultry enterprise: Profits, production, and processing support with new and diversifying small-scale farms	\$14,987	Jennifer Hashley Trustees of Tufts College / New Entry Sustainable Farming Project
ONE13-193	Evaluation of corn gluten meal for preemergence weed management in cranberry	\$10,578	Dr.Hilary Sandler UMass Cranberry Station
ONE12-159	Comparative influences of hive architecture in Apis mellifera fitness.	\$14,999	Dr.James Harding Green Mountain College Valerie Hetzel Green Mountain College
ONE11-147	Raw Milk Producers Manual	\$8,563	Winton Pitcoff NOFA/Massachusetts
ONE10-131	Irrigation and Nutrient Management to Maximize Vegetable Yield and Minimize Pollution	\$14,986	Dr.Jed Waddell Smart Farming

ONE09-096	Appletesters.net, A grower directed research tool for growers to access apple variety characteristics in order to better make planting decisions	\$9,999	Winfred Cowgill Rutgers University
ONE06-059	Troubleshooting concerns associated with direct long cut vacuum grass silage	\$7,572	Sue Ellen Johnson New England Small Farm Institute
ONE03-001	Sharing our advances: Evaluating the use of plastic mulch and trickle irrigation systems in Asian vegetable production	\$9,789	Amy Carrington New Entry Sustainable Farming Project
ONE03-013	Impacts and comparisons of pruning and sanding on cranberry uprights and yield production	\$4,864	Dr.Hilary Sandler UMass Cranberry Station

#### SUSTAINABLE COMMUNITY INNOVATION GRANTS

Project #	Project Title	SARE Support	Project Leaders
CNE13-102	Community INVESTED in Sustaining Agriculture: Building the Network for Investment in a Local Food System	\$15,000	Margaret Christie Community Involved in Sustaining Agriculture (CISA)
CNE13-105	Helping farmers create group-owned farm businesses	\$14,996	Severine Fleming The Greenhorns
CNE12-094	Finding Common Ground to Protect Public Health: Convening Town Board of Health Officials and Local Farmers to Support Direct Marketing and Value-added Production	\$14,999	Kelly Coleman Community Involved in Sustaining Agriculture
CNE12-098	The Farm Institute's Pilot Parcels Project	\$14,520	Jonathan Previant The Farm Institute
CNE12-100	Community Farmland Connections through a Targeted GIS Identification and Outreach Approach	\$14,953	Jennifer Hashley Trustees of Tufts College / New Entry Sustainable Farming Project
CNE11-085	Improving Technical Assistance for Emerging Food-Based Businesses	\$15,000	Margaret Christie Community Involved in Sustaining Agriculture (CISA)
CNE11-088	Many Hands Farm Corps	\$14,995	Ryan Karb Many Hands Farm Corps

CNE10-071	Pioneer Valley Heritage Grain Project	\$14,883	Ben Lester Pioneer Valley Heritage Grains
CNE10-078	Enhancing Farmer Access to Sustainable Shellfish Aquaculture Areas: An Ecosystem Approach	\$15,000	Owen Nichols Provincetown Center for Coastal Studies
CNE09-057	Building a case for local agricultural infrastructure	\$24,968	Margaret Christie Community Involved in Sustaining Agriculture (CISA)
CNE08-039	Island Grown Initiative Poultry Program on Martha's Vineyard	\$9,397	Alice Berlow Island Grown Initiative Richard Andre Island Grown Initiative
CNE08-041	Connecting farmers and community to grow year-round sales of local agriculture products	\$9,968	Kelly Coleman Community Involved in Sustaining Agriculture
CNE08-042	Target: Hunger farmers' markets (Springfield and North Berkshire)	\$7,457	Lori-Anne Russo The Food Bank of Western Massachusetts
CNE08-045	Bringing us together: A project to develop and strengthen the connections to our farms	\$7,178	June House Rehoboth Agricultural Commission
CNE08-048	Gaining Ground in Maine	\$10,000	Jim Oldham Equity Trust
CNE08-053	Pilot Investment Project	\$10,000	Dorothy Suput The Carrot Project
CNE07-019	Building the skills: Strengthening farm-to-school relationships, strengthening communities	\$9,861	Kelly Coleman Community Involved in Sustaining Agriculture
CNE07-024	Growing Carver community connections	\$9,800	Jack Hunter Department of Planning and Community Development
CNE07-025	Mattapan food system project	\$10,000	Judy Lieberman Brookwood Community Farm
CNE07-028	The Carrot Project: Farmers' financing needs assessment	\$10,000	Dorothy Suput The Carrot Project

CNE06-010 Building partnerships and support for a regional farm-link effort in southeastern Massachusetts

\$8,902

Sarah Kelley  
SE Mass. Agricultural Partnership (SEMAP)

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**Total funding from the USDA SARE program to  
Massachusetts  
\$10,554,603**

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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).