

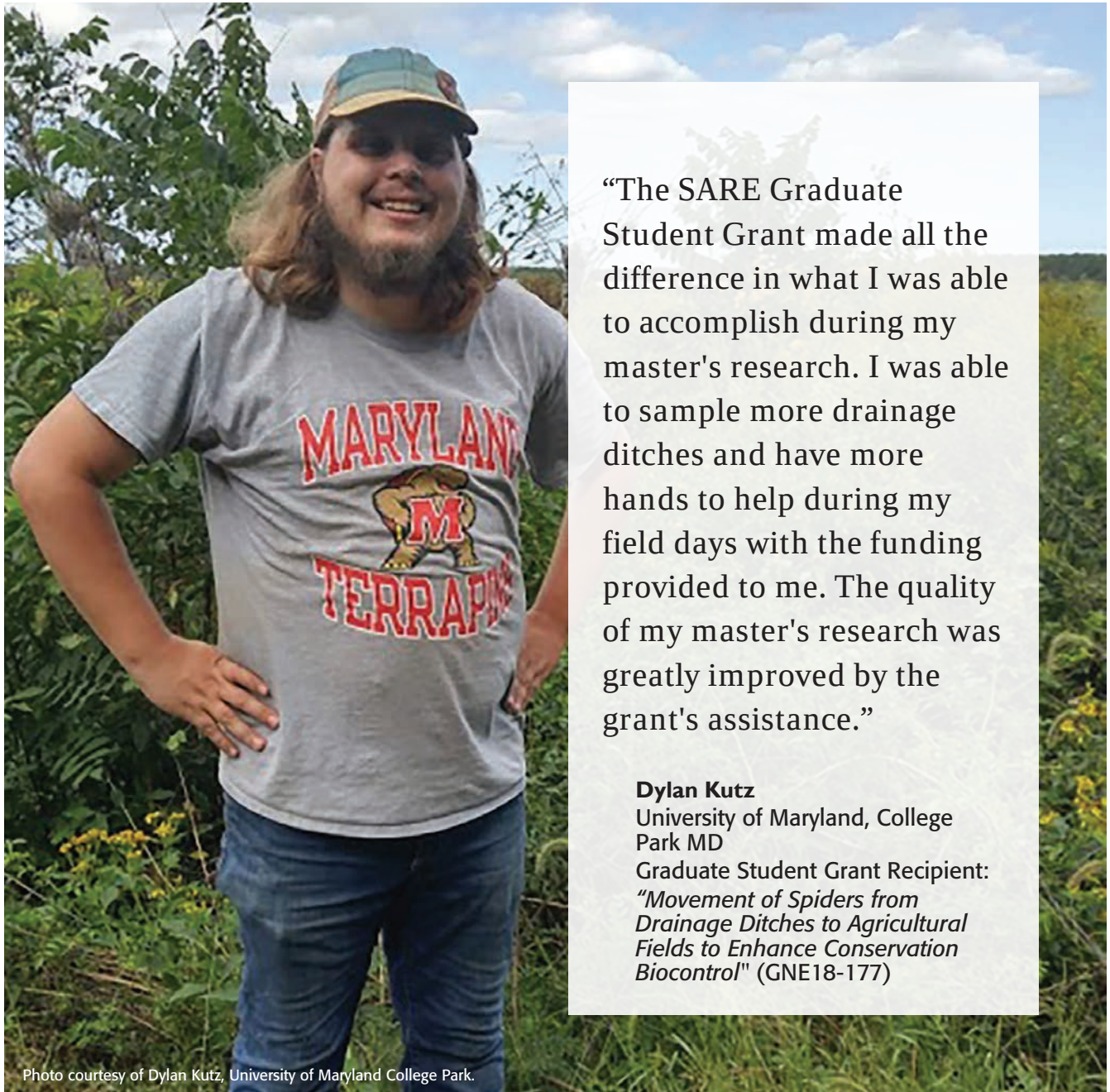
2020 ANNUAL REPORT

innovations

in sustainable agriculture



Sustainable Agriculture
Research & Education



“The SARE Graduate Student Grant made all the difference in what I was able to accomplish during my master's research. I was able to sample more drainage ditches and have more hands to help during my field days with the funding provided to me. The quality of my master's research was greatly improved by the grant's assistance.”

Dylan Kutz

University of Maryland, College Park MD

Graduate Student Grant Recipient:

“Movement of Spiders from Drainage Ditches to Agricultural Fields to Enhance Conservation Biocontrol” (GNE18-177)

Photo courtesy of Dylan Kutz, University of Maryland College Park.

Northeast SARE Staff

Rebecca Bartlett
office & program support

Katie Campbell-Nelson
professional development
program coordinator

Nevin Dawson
professional development
program associate coordinator

Vern Grubinger
director

Debra Heleba
communications specialist

Candice Huber
grant coordinator

Kali McPeters
grant coordinator

Heather Omand
associate director

Jennifer Pelkey
office manager

Lacey Ure
financial manager

Contact Us

Northeast SARE
University of Vermont
140 Kennedy Drive
Suite 202

Burlington, VT 05403
802.651.8335

northeastsare@uvm.edu

www.northeastsare.org



Our programs are offered to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or familial status. SARE is funded by USDA NIFA. USDA is an equal opportunity provider and employer.

About Us

The Northeast Sustainable Agriculture Research and Education (SARE) Program offers grants to farmers, graduate students, educators, researchers, agricultural service providers and others who work with farmers to address key issues affecting the sustainability of agriculture in our region.

The Northeast region includes Connecticut, Delaware, Massachusetts, Maryland, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia, and Washington, D.C.

We currently offer the following grant programs:

- Farmer
- Graduate Student Research
- Partnership
- Professional Development Program
- Research and Education
- Research for Novel Approaches in Sustainable Agriculture
- State Programs

Northeast SARE is one of four regional SARE programs funded by the USDA National Institute of Food and Agriculture.

Northeast SARE's outcome statement:

Agriculture in the Northeast will be diversified and profitable, providing healthful products to customers. Farmers and the people they work with will steward resources to ensure sustainability and resilience, and foster conditions where farmers have high quality of life and communities can thrive.

On cover: sunflower. Right: Dana Morse of the Maine Sea Grant and University of Maine Cooperative Extension conducted a [Partnership Grant project](#) to test a Japanese technique of ear hanging as a cost-effective culture method of sea scallops. All photos were taken by Northeast SARE staff unless otherwise noted.



FROM OUR DIRECTOR

Looking up — for sustainability

During my early years in Extension, I didn't take pictures of people. All of my slides focused on sustainable agriculture practices being used in the field for vegetable production. After all, I was a vegetable specialist. So I captured cover crops, weed control equipment and soil amendments of all types, from every angle. One day I looked up—and it hit me, there were no farmers in my photos. My goal for the visual information I was collecting was to help people learn from one another and yet the people sharing their knowledge were invisible. After that, it became my standard practice to photograph farmers I visited alongside their innovative activities.

For many years I took lots of pictures and made a bunch of videos, capturing farmers doing cool things in their fields. Then, I looked up—beyond the fields, and realized that growing crops was not the main challenge for the farming community. Sure, there were problems but markets, labor, regulations, land tenure, farm transfer and other social aspects of farming had to be addressed. A 'food systems' lightbulb illuminated and I started to understand sustainable agriculture 2.0.

I began to bring social issues, alongside production, into my programming through the voices of farmers

and those who work with them to discuss those challenges. It felt like a holistic approach. Then, I looked up—and realized that a lot of people were only in my peripheral view. After years of walking by and nodding politely, I started talking to farm workers from other countries. After years of assuming rural farming was real farming, I visited and came to respect urban agriculture as farming, too. Who else am I not seeing and thus not bringing into my programs?

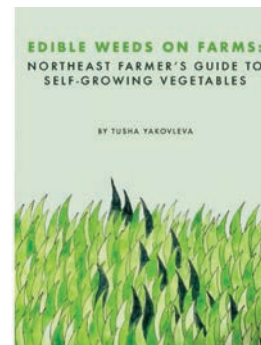
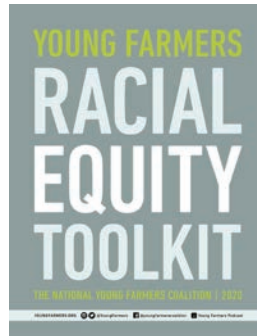
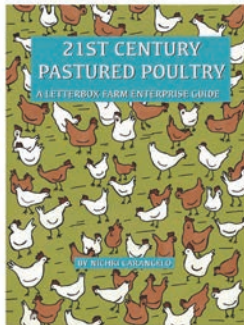
John Carroll's book, *Sustainability and Spirituality*, helped me realize that one cannot sustain what one does not value deeply. And, of course, one cannot value what, or who, one doesn't know or see.

So I'm going to keep looking up—not just for new production ideas, ecological connections and social constructs that support sustainable agriculture, but also for people I don't know, people who are on paths I may not yet share but who are also on the journey to a better food system. I'm proud that the Northeast SARE program is looking up, too. We're striving to be more inclusive, not just of a wide range of farming, marketing and community practices, but of all the people engaged in them."

Vern Grubinger

Farmer-to-farmer resources developed in 2020

At Northeast SARE, we recognize and celebrate the power of farmer-to-farmer sharing. Key to our Farmer Grant program is outreach and sharing of project results with other farmers. Highlighted below are just some of the resources created by farmers for farmers with SARE funds in 2020. These and more SARE resources are available at: northeastsare.org/resources.



**Organic Strawberries-
plasticulture vs
matted row, 2018 &
2019 SARE Farmer
Trial at Red Fire**



FARMER GRANT PROJECT: FNE19-940

Developing nori as a new sea crop

Nori is one of the most popular and nutritious seaweeds consumed globally. Currently, most cultivated nori is grown in the coastal waters of Japan and China

but increasing demand for this sea vegetable in the U.S. presents an opportunity for Northeast aquaculturists to consider nori production for local markets, diversifying

and adding value to their ocean-based businesses.

Currently, nori is not commercially produced in the U.S. so Sarah Redmond, owner of Springtide Seaweed in Sullivan, Maine received a [Northeast SARE Farmer Grant](#) to study the development of an innovative seaweed growing system for nori as a new crop.

The success of any new crop begins with healthy seed and nori, as an ocean crop, is no different. Therefore, Redmond's project centered on seed (spore) development in the lab and then cultivation in the ocean.

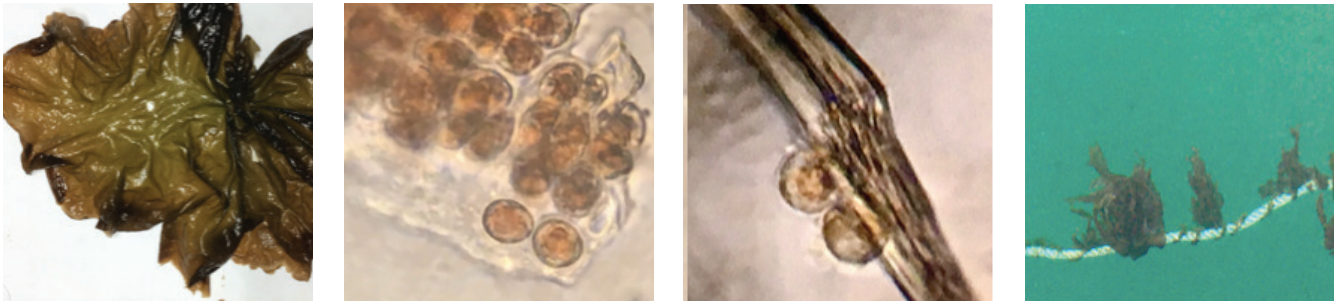
Redmond first sought to develop nursery protocols for *Porphyra*

umbilicalis, a nori species native to Maine. Because nori and other seaweeds are algae, propagation of "seed" is focused on production of conchospores in a controlled environment of indoor tanks.

Redmond collected reproductive plants from the ocean four times during the year and cultivated spores from them in culture tanks. Redmond tested the spore germination rate and then allowed them to grow on seed spools, monitoring for growth and biofouling. Redmond saw a high rate of biofouling caused by algal and protist contamination that affected seed quality. She was not surprised by this event as Redmond noted,



Sarah Redmond of Springtide Seaweed describes nori "seed" development where the algae's spores are seeded to seed spools and allowed to develop blades in a controlled environment before moving them out to the farm.



Above: Redmond showed the step-by-step cultivation of nori in her project report including an adult nori plant to the far left, spores being released, and then attached to string filament where they can start to develop blades. Lines were placed in the ocean and some developed blades, far right. Below: Redmond's farm, Springtide Seaweed, is located in Frenchman Bay, Maine. Photos courtesy of Sarah Redmond, source: <https://projects.sare.org/project-reports/fne19-940/>.

“Severe and persistent contamination is the major issue in successful production of seed for seaweed farms, as was exhibited by this trial.”

Despite this setback, Redmond continued the project by seeding lines of developing spores and placed them in the ocean for open water cultivation. Again, the nori experienced heavy

biofouling and, despite regular cleaning, most seed did not develop blades. Surviving blades were monitored. Results showed that smaller seed were not viable. However, larger seed seemed viable as seed at 1 to 3 millimeters developed clean and normal blades of 3 to 20 centimeters over the course of three months.

As a first attempt to domesticate a new seaweed species from the wild, Redmond concluded that the project, “reveal[ed] a wealth of information about strategies, opportunities, and issues that will inform continual progress toward cultivation. Further development of a local nori species

for culture will need to involve reducing biocontamination risk in the nursery, strategies for overcoming heavy diatom fouling on the farm, increased seed size, and investigations into new species that will be more amendable to continual submersion.” ■



GRADUATE STUDENT GRANT PROJECT: GNE18-190

PA student uses innovative technique to study urban agriculture

Pennsylvania State University graduate student Hannah Whitley conducted research on the experiences of urban farmers through a [Northeast SARE Graduate Student Research Grant](#). Whitley was particularly interested in looking at the strategies used by female growers to develop their urban farms, and the extent to which these strategies also lead to stronger business networks and leadership, enhancing local communities.

Recognizing the importance of intersectionality, Whitley said, “This research sought to embed urban agriculture within critical, feminist, anti-racist, intersectional frameworks that elevate marginalized voices to the forefront of social sustainability and encourages broader dialogues...”

Whitley’s research included in-depth interviews with 30 urban growers, educators and food activists in Pittsburgh, PA, recognized as a top U.S. city for its progressive urban agriculture policies. In addition, Whitley administered a grower survey and conducted participant observations over the course of 15 weeks to deepen an understanding of the lived experiences of urban growers.

A unique aspect of the project was Whitley’s use of Photovoice. Photovoice is a community-based participatory action research (PAR) method often conducted among people who traditionally have had not had the influence or voice they deserve. This innovative technique not only helps record community strengths and needs from participants themselves, it also serves as a

way to give voice to participants through photographic storytelling, promotes discussion among participants and creates a platform for participants to engage with policymakers and other stakeholders. In this way, Photovoice essentially acts like a community-based research tool that empowers people. For this part of the project, Whitley outfitted 18 Pittsburgh growers with cameras and other tools they used to share their experiences and document their needs, primarily through images. Their stories were compiled into an online exhibition called “[The Female Farmer Photovoice Project: From Blight to Beauty](#)”.

Through a thorough and rigorous analysis of the qualitative data collected, Whitley’s research surfaced several motivations for participants’ involvement



Above: Hannah Whitley created a traveling exhibit of the Female Farmer Photovoice Project displayed at 12 PA events. Below: An example of a photostory; here, urban grower Hallie describes the importance of the farm as a safe space in the community. Photos sourced from: <https://projects.sare.org/project-reports/GNE18-190/>.

in urban farming, including community building, agriculture and food education, healing and self-fulfillment, and the suitability of food production to both their professional and personal lives.

Whitley found that several growers created partnerships with local non-governmental organizations (NGOs), elementary schools and faith-based institutions. Educational programs, services and supportive spaces offered by these organizations were vital for women growers to develop their operations, gain confidence and build community which, in turn,

have benefitted the Pittsburgh neighborhoods where their farms and gardens are located.

Barriers identified by growers included cumbersome bureaucracy (“red tape”), lack of broad community support, inconsistent volunteers, operator finances, isolation and lack of mentorships, lack of relevant production information (e.g., low-cost, organic methods of soil remediation, cover crops for raised beds, etc.), appropriate marketing and distribution strategies, and land access and tenure issues.

Whitley concluded, “Initiatives and policy have encouraged sustainable agriculture in cities across the U.S., yet farmers and growers still experience multiple environmental, economic, and

social challenges unique to their urban context. These include access to land and water resources, poor soil quality, and space constraints. For agriculturalists who identify as racial, ethnic, and gender minorities, these challenges are often compounded by historical and current systems that have institutionalized racism, persistent socio-economic disadvantage, and unequal access to resources critical for growing food.”

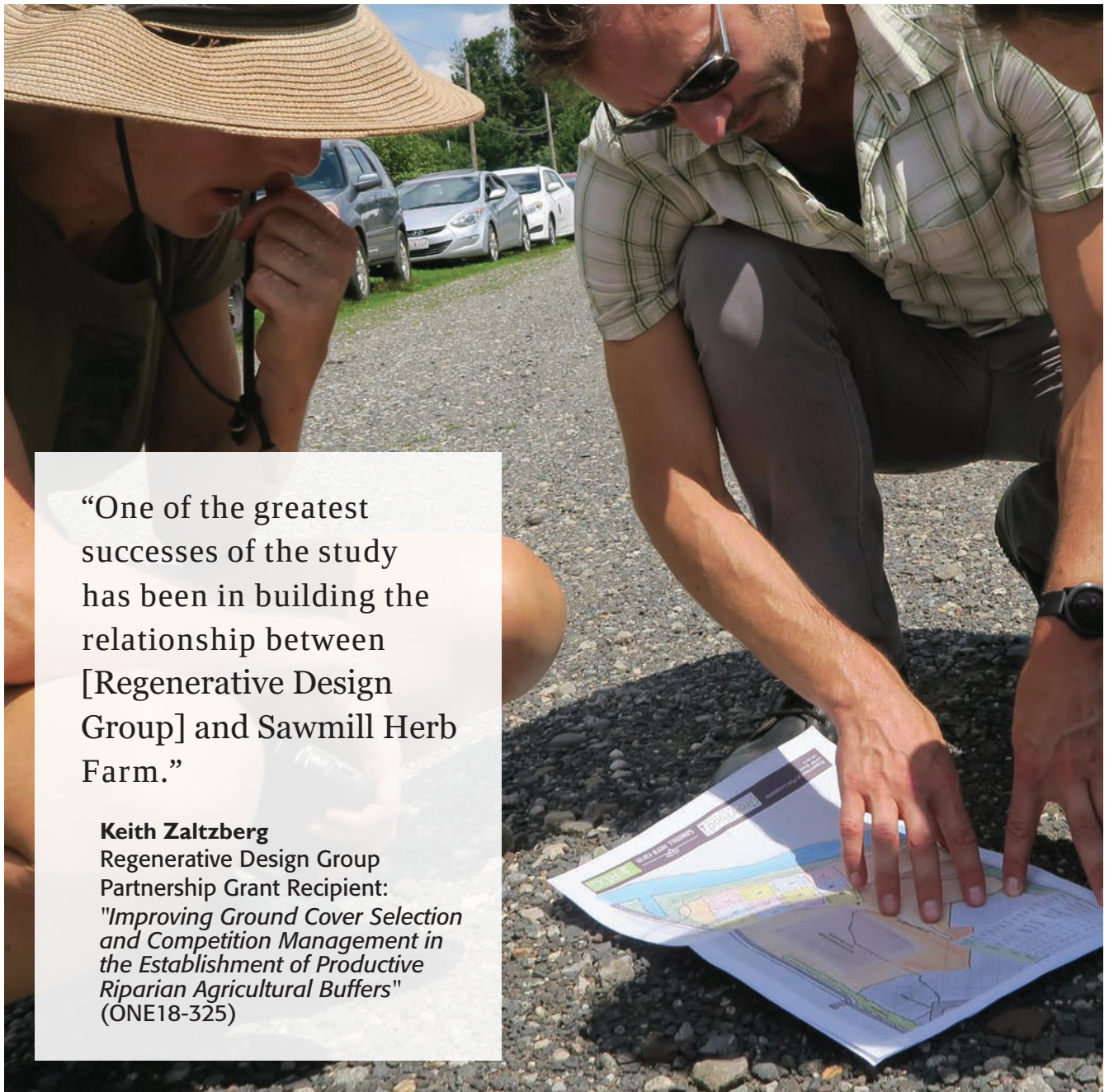
Whitley encouraged more research using the community-based, participatory methods. She said, “Farmers and gardeners—especially those who are historically underserved—have a strong desire to make their voice heard and be active participants in choosing what type of information is studied.” ■

Figure 5.9. “Darkness & Light” shot by Hallie



“Darkness & Light”

Creating abundance & beauty is not for the fainthearted; our farm is not a stranger to bullets. Our farm is a ministry of a church and we believe that God will prevail over the violence of our neighborhood.



“One of the greatest successes of the study has been in building the relationship between [Regenerative Design Group] and Sawmill Herb Farm.”

Keith Zaltzberg

Regenerative Design Group
Partnership Grant Recipient:

*"Improving Ground Cover Selection
and Competition Management in
the Establishment of Productive
Riparian Agricultural Buffers"*
(ONE18-325)

PARTNERSHIP GRANT PROJECT: ONE18-325

Riparian buffer study yields cropping for climate change & new partnership

Growing elderberry and other woody perennials in riparian buffers can accomplish two important farm goals—adding a marketable crop to the farm and providing streambank stabilization for erosion control. Keith Zaltzberg of Regenerative Design Group in Greenfield, MA partnered with Susan Pincus of Sawmill Herb Farm on a [Northeast SARE Partnership Grant](#) to identify cost- and labor-effective ways for farmers to convert underutilized or sensitive acreage into more flood-resilient cropping systems.

The project evaluated three ground cover

treatments—wood chip mulch, plastic mulch and herbal meadow—on the establishment of seven varieties of elderberry. The field used for the study was located on the Mill River in Northampton previously used for annual crops and low-quality pasture.

The project experienced a crop failure in 2018—attributed to drought, timing of planting, and intense weed pressure—that caused the team to reflect on and refine their methods. In the subsequent planting, the team made observations of plant health and field and ground cover conditions three times each during 2019 and

spring of 2020. Thirty-four percent of plants received a “healthy” rating, twenty-eight percent were considered “weak/diseased” and the rest were missing or dead. While the team acknowledged worse than expected results, they did note a significant difference between treatment groups. The wood chip mulch treatment performed the best with a 69% survival rate of elderberries, due to better overall moisture retention, lower winter rodent damage (compared to the plastic mulch), and less weed competition than the herbal ground cover.

Zaltzberg said the team learned valuable lessons about experimental design, crop selection and field preparation in the face of climate change. These were shared with five farms interested in establishing woody riparian buffers. Zaltzberg also said the project helped build the partnership between his firm and Sawmill Herb Farm, “One of the greatest successes of the study has been in building the relationship between RDG and Saw Mill Herb Farm. We’ve discussed continuing shared management of this planting and partnering on other projects.” ■

RESEARCH AND EDUCATION GRANT PROJECT: LNE15-343

Project improves nutrient & pest management in high tunnel tomatoes

High tunnel production of tomatoes is important on many Northeast vegetable farms, generating a lot of revenue from small areas. Rebecca Sideman of the University of New Hampshire conducted a [Northeast SARE Research and Education project](https://projects.sare.org/project-reports/lne15-343/) that resulted in new information to help growers improve potassium (K) fertilization in tunnels, and improve management of insect and mites using an Integrated Pest Management (IPM) approach.



Project results showed a strong relationship between K application rates and incidence of the tomato disorder, yellow shoulder, shown above in levels of severity from mild (left) to severe (right). Photos sourced from: <https://projects.sare.org/project-reports/lne15-343/>.

The project's research focused on identifying soil test critical levels for K and demonstrating the efficacy of "habitat plants" to increase biodiversity and reduce pest problems. Habitat plants are pollen-producing flowers that are highly attractive to natural enemies and many pest species. They provide food (pollen, nectar or pests) and shelter for natural enemies, and a place for them to lay eggs.

Soil fertility experiments were conducted at three high tunnel sites. Potassium gradients were established by applying different rates of potassium sulfate (0-0-50) to provide varying rates of K (0, 168, 336, 504, 674, and 841 kg/ha of actual K₂O). Soil samples were taken from each plot three times: before adding amendments, at first harvest, and just after final harvest. Soil K levels, crop yield, and incidence of yellow shoulder (a fruit defect associated with K deficiency) were monitored for three years.

Results showed that even when applied in extremely high quantities, the levels of soil K declined quickly from high tunnel soils and, in general, soil K levels were positively correlated with marketable fruit weight, and negatively correlated with incidence and severity of yellow shoulder.

Initially, the researchers inadvertently used a formulation with very large K fertilizer particles (several mm diameter) and found that some of particles were still intact two years after application. These would not be available for plant uptake despite being measured by soil tests. So in year three, they compared crop response to dissolved versus granular potassium sulfate at different rates, applied pre-plant or in split applications. Results from these experiments showed that finely granulated potassium sulfate, whether dissolved or incorporated, were recovered in rates proportional to the rates applied, as would be expected. Split applications showed no benefit over pre-plant applications of similar rates. The findings suggest that pre-plant incorporation of potassium sulfate “fines” is a viable fertilization strategy.

Habitat plant demonstration plantings were established at two sites using borage, alyssum, dill and marigold. Tunnels with the habitat plants were divided into four sections with one yellow sticky card per section. Crops, habitat plants and sticky cards were sampled every two weeks to determine pest and natural enemy populations according to group (e.g., aphids, parasites, predators, thrips, whiteflies, etc.) and evidence of parasitism and hyperparasitism. Foliar damage on the crop and habitat plants was also assessed.

Habitat plantings were found to be very attractive to a wide array of beneficial organisms. Monitoring experiments over two years observed more than 2,000 individual natural enemies on habitat plant systems. The average percentages of common natural enemies visiting these systems were: 34% parasitic wasps and mummies (parasitized aphids), 22% *Orius* adults and nymphs (predatory insect), 18% syrphid fly adults, 4% lacewings and 3% lady

beetles at various life stages, and 3% predatory fly maggots (syrphids and others). When the number of all natural enemies observed was combined, more were found on borage (52%) than alyssum (30%), dill (13%) or marigold. Common pests observed on habitat plants included aphids, thrips, spider mites and flea beetles.

Project results were shared through workshops, publications and two region-wide conferences on high tunnel production, reaching a total of 1,338 farmers and 118 agricultural service providers. Seventy-nine survey respondents that participated in at least one project activity said they made changes in their production practices on a total of 534,844 square feet (12.3 acres) of high tunnels. Changes made included improved nutrient management on 4.93 acres, enhanced pest management on 3.15 acres, improved irrigation on 0.96 acres, and changes to other cultural practices on 1.15 acres.

More information is available in Sideman's project report and on the project's web site at: hightunneltomatoproject.wordpress.com. ■



The team discusses pest scouting protocols.



“This project allowed us to work with farmers, farm advisors and coops on whole farm evaluations for nutrient use. The annual assessment allowed farmers to be more comfortable with making management changes that can reduce their nutrient balance for improved profitability and environmental stewardship, and the results show it!”

Quirine Ketterings

Cornell University

Professional Development Grant

Recipient: *"Whole farm nutrient mass balances for outcome-based adaptive management of nutrients on dairy farms"* (ENE16-143)

Photo courtesy of Doug Young.

PROFESSIONAL DEVELOPMENT PROJECT: ENE16-143

Dairy farm advisors learn to balance whole farm nutrients

Dairy farms use nutrient management planning to ensure that resources like nitrogen and phosphorus found in livestock manure are efficiently used on farm fields to save money, avoid unnecessary fertilizer purchases and protect water quality.

Quirine Ketterings of Cornell University took a step back to look at the bigger picture of nutrient management. She and her team have been refining tools for whole-farm nutrient mass balance assessments (NMB). Here, all resources flowing in and out of dairy farms are

accounted—resources coming into the farm like feed, fertilizers, livestock and bedding are recorded as are resources exported (and recycled back into the farm) like milk, livestock, crops and manure. All are used to assess the farm's nutrient balance from the perspective of the farm's land base (per tillable acre) and nutrient use efficiency in the bulk tank (per hundredweight of milk). This whole farm approach gives dairy farmers information to better help reduce nutrient losses, which benefits the environment *and* the farm's bottom line.

Ketterings conducted a [Northeast SARE Professional Development project](#) that taught 69 farm advisors how to use NMBs on dairy farms. The project team also provided NMB trainings for farmers and representatives at Ben and Jerry's Caring Dairy Program, Land O'Lakes and a collaboration of Chobani and the World Wildlife Fund.

As a result, 18 farm advisors actively worked with farmers and 80 farms completed NMBs during the project. Jack Van Almelo, director of Agricultural Consulting Services, worked with farmers and advisors.

He said, "A tool like this that gives a big picture snapshot, yet can be used to monitor specific areas of the farm and tie everything together is extremely valuable. It's great because trends can be seen that are the outcome of particular management decisions. I see a bright future for the NMB to have positive impacts on farms as the industry expands its use."

NMB is now being incorporated into Extension and Soil and Water Conservation District programs from Vermont to Virginia and is also being considered for use in agribusiness sustainability programs.



Researcher seeks to extend the strawberry season

The Northeast strawberry season is the epitome of the phrase, “short and sweet”. On average, the average harvest lasts only three to four weeks, but consumer demand is strong (strawberries are the most consumed berry in the U.S.) and increasing, especially for local berries. In an effort to extend the local strawberry season, Thomas Gianfagna of Rutgers University studied advanced packaging technologies through a [project funded by a Northeast SARE Research for Novel Approaches Grant](https://projects.sare.org/project-reports/lne18-369r/).

Gianfagna examined the use of modified atmospheric packaging and essential oils to prolong fruit freshness and storage life as compared to conventional storage strategies.

Modified atmospheric packaging (MAP) is widely used in today’s food packaging; typically, levels of oxygen inside food containers are lowered to reduce oxidation, or carbon dioxide levels are increased to inhibit ripening. In this project, Gianfagna experimented with MAP bags outfitted with carbon dioxide emitters to reduce water loss in the berries. Fruit were evaluated in bags used with and without essential oil treatments.

Essential oils are recognized for their antimicrobial properties. Therefore, in this experiment, Gianfagna outfitted strawberry clamshell containers with sachets treated with oregano or thyme oil, known to control gray mold and other diseases. The project team harvested strawberries from four farms over the course of two-year’s worth of study.

The trials used about 20 berries placed in clamshells in MAP bags alone, outfitted with oregano or thyme oil sachets or a combination of essential oil sachets



Thomas Gianfagna and his Rutgers team tested modified atmospheric packaging bags, pictured above, as a way to extend the postharvest quality of strawberries. Photos courtesy of Thomas Gianfagna, sourced from: <https://projects.sare.org/project-reports/lne18-369r/>.



Strawberries in clamshell container outfitted with sachet containing essential oil.

and MAP bags. Gianfagna and the team evaluated fruit quality based on weight loss over time, fruit firmness, sugar content (total soluble solids) and visible evidence of mold or disease.

Results indicated that modified atmosphere packaging, with or without essential oils, was most effective in maintaining postharvest quality; the team observed that MAP bags reduced the loss in fresh weight during cold storage for seven days in both years of the study for all farm harvests. Also, although not statistically significant across the entire study, a reduction in disease incidence was observed with the use of thyme and oregano oil sachets.

To address concerns about the potential for off-flavors or aromas to berries caused by the essential oil sachets, Gianfagna also conducted consumer taste tests at farmers' markets. Here, seven-day old stored fruit used in the trials were compared to freshly picked strawberries. While consumers preferred the freshly picked fruit, there was essentially no detection of herbal off-flavors or

aromas with the stored berries.

Overall, the project showed promise that using MAP, especially in combination with essential oil sachets, can reduce disease incidence and maintain fruit quality. Results suggested that off-flavors and aromas should not be of concern to growers. Gianfagna said the next step for this research is to focus on partnering with a company to produce commercially available essential oil sachets. He was hopeful that farmers may use MAP and essential oil sachets, when commercially available, to extend the postharvest quality of fruits, vegetables and even cut flowers on their farms. ■



Above: Thomas Gianfagna, center, and his team conducted strawberry taste tests at farmers' markets to determine if consumers could detect any off-flavors or aromas to the fruit that may have been imparted by the oregano and thyme oils in the sachets. Photos courtesy of Thomas Gianfagna, sourced from: <https://projects.sare.org/project-reports/line18-369r/>.

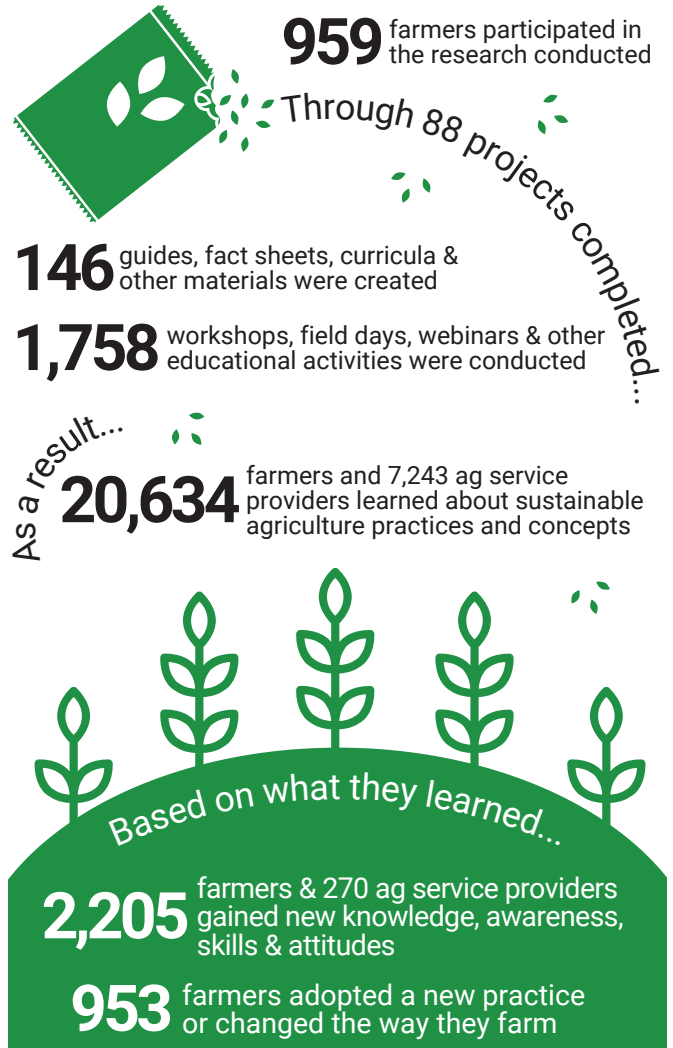
Year-end program results

Each year, Northeast SARE takes stock of the outputs and outcomes reported by grantees that finish their projects. In fiscal year 2020, eighty-eight projects, funded for a total of \$3.7 million, were completed. They included 29 Farmer Grant projects, 26 Graduate Student Research Grant projects, 17 Partnership Grant projects, 12 Research and Education projects, 2 Research for Novel Approaches projects and 2 Professional Development projects.

Staff calculated that 959 farmers were directly involved in project research conducted, primarily hosting on-farm research trials.

Collectively, the projects created 146 educational materials. They offered 1,758 workshops, field days, online trainings, on-farm demonstrations and other events. In total, 20,634 farmers and 7,243 agricultural service providers learned about sustainable agriculture practices and concepts through these activities. As a result, 2,205 farmers and 270 service providers gained new knowledge, awareness, skills and attitudes, and 953 farmers made on-farm changes based on what they learned.

During the course of these projects, 201 new collaborations were formed, strengthening our sustainable agriculture community. Project leaders also reported securing 72 new grants, totaling \$10.4 million in funding, to build on the work conducted.

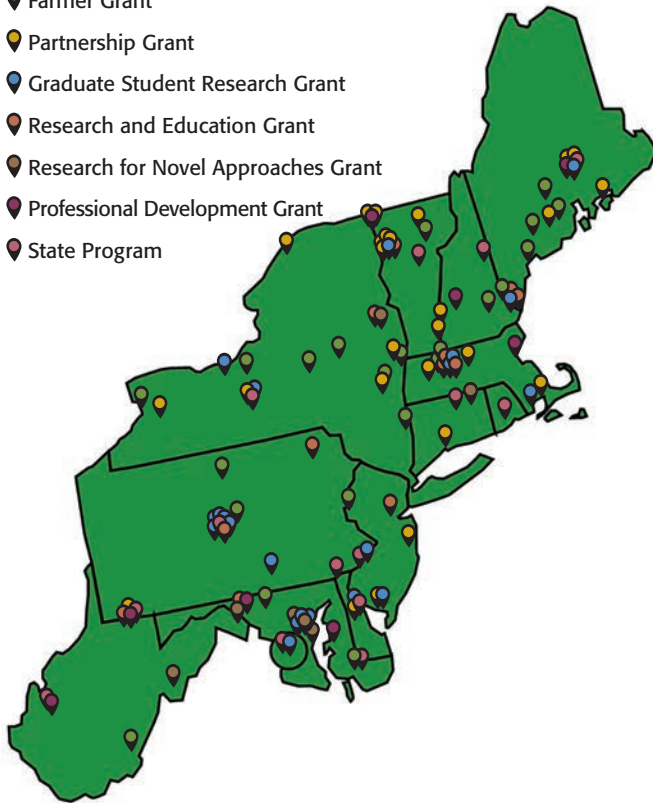


2020 grant awards

During the 2020 grant cycle, Northeast SARE funded 97 competitive grant projects throughout the Northeast, totaling \$5,370,935. An additional \$1,088,476 was awarded to State SARE programs at the region's land grant universities to conduct professional development and SARE outreach. The list of 2020 awards follow, in order by state of project coordinators. Learn more about these and other SARE-funded projects on SARE's national database at: projects.sare.org/search-projects.

2020 awards on the map

-  Farmer Grant
-  Partnership Grant
-  Graduate Student Research Grant
-  Research and Education Grant
-  Research for Novel Approaches Grant
-  Professional Development Grant
-  State Program



Connecticut

PARTNERSHIP GRANT: ONE20-368

Incorporating Online Ordering Systems to Increase Farmer Sales at Farmers' Markets and Beyond

Ashley Kremser, CitySeed, New Haven CT
\$15,698

RESEARCH FOR NOVEL APPROACHES GRANT: LNE20-412R

Enhancing the Safety of Eggs and Fresh Produce by Novel Ultra-fine Bubble Technology

Abhinav Upadhyay, University of Connecticut, Storrs CT
\$148,874

STATE PROGRAM: SNE20-001-CT

Improving Pasture Management for Sustainable Livestock Production

Joe Bonelli, University of Connecticut, Vernon CT
\$225,330



Delaware

GRADUATE STUDENT GRANT: GNE20-241

Using Drones to Measure Cover Crop Biomass as a Predictor of Soil Nitrogen And Corn Emergence Issues

Jamie Taraila, University of Delaware, Dover DE
Advisor: Jarrod Miller
\$14,832

PARTNERSHIP GRANT: ONE20-372

Prevalence of *Toxoplasma gondii* on Small Ruminant Farms in Delaware

Kwame Matthews, Delaware State University, Dover DE
\$29,992

STATE PROGRAM: SNE20-002-DE Mentoring and Adult Education Principles for Extension Educators

Dan Severson, University of Delaware, Newark DE
\$31,451

STATE PROGRAM: SNE20-003-DE

Improving the Effectiveness of Farmer Outreach as an Agricultural Service Provider in Delaware and the Eastern Shore of Maryland

John Clendaniel, Delaware State University, Dover DE
\$166,665



Maine

FARMER GRANT: FNE20-947

Effect of Container Depth on Taprooted Seedling Root Morphology and Post-Transplant Establishment Success

Anson Biller, Full Fork Farm, China ME
\$14,908

FARMER GRANT: FNE20-955

Determining Optimal Seed-clam Size for Littleneck/Oyster Polyculture

Jordan Kramer, Winnegance Oyster Farm, Portland ME
\$14,922

FARMER GRANT: FNE20-958

Introducing Value-Added Cornmeal into Liberation Farm's Agricultural Production

Muhidin Libah, Somali Bantu Community Association, Lewiston ME
\$10,527



Katie Webb Clark demonstrates udder hygiene practices.

FARMER GRANT: FNE20-965

Developing Management Options for *Staph aureus* on Organic Dairies

Katie Webb Clark, Reed Farm, Windsor ME
\$13,149

GRADUATE STUDENT GRANT: GNE20-244

Reducing Risks of Wildlife / Livestock Parasite Transmission

Rachel White, University of Maine, Orono ME
Advisor: Anne Lichtenwalner
\$14,907

PARTNERSHIP GRANT: ONE20-356

Development of Integrated Seaweed and Green Sea Urchin Aquaculture for Diversification of Sea Farms in the Northeast

Andrea Angera, Maine Seaweed Exchange, Gouldsboro ME
\$29,985

PARTNERSHIP GRANT: ONE20-359

Improving Shelf Life of Fresh Pack Maine Wild Blueberries

Lily Calderwood, University of Maine, Orono ME
\$28,270

PARTNERSHIP GRANT: ONE20-364

Biosecurity Preparedness, Infectious Disease Prevention, and Farmer Training on Northern New England Swine Farms

Carolyn Hurwitz, Maine Department of Agriculture, Augusta ME
\$29,270

PARTNERSHIP GRANT: ONE20-366

Comparing Alternative Weed Management Practices to Black Plastic in CBD Hemp Production

John Jemison, University of Maine, Orono ME
\$29,993

PROFESSIONAL DEVELOPMENT GRANT: ENE20-164

Northeast Climate Adaptation Fellowship to Support Vegetable and Fruit Farmers

Rachel Schattman, University of Maine, Orono ME
\$149,000

STATE PROGRAM: SNE20-007-ME

Identifying Gaps in Knowledge and Capacity to Help Farmers Adapt to a Changing Climate

Ellen Mallory, University of Maine, Orono ME
\$46,662



Maryland

FARMER GRANT: FNE20-951

Managing Corn Earworm in Hemp Field by Using Sweet Corn as a Trap Crop

Kelly Edwards, Wood Duck Landing Farm, Princess Anne MD
\$14,895

FARMER GRANT: FNE20-954

Composting Sheep Manure with Black Soldier Fly Larvae for Fly and Parasite Control

Andrew Keller, Vista View Farms, Damascus MD
\$13,263

GRADUATE STUDENT GRANT:
GNE20-230

Optimizing Early-season Pest Control in Corn: Untangling the Contributions of Neonicotinoid Seed Treatments, In-furrow Pyrethroids & Bt Hybrids

Maria Cramer, University of Maryland, College Park MD
Advisor: Kelly Hamby
\$14,961

GRADUATE STUDENT GRANT:
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

Danielle Delp, University of Maryland, College Park MD
Advisor: Stephanie Lansing
\$14,978

GRADUATE STUDENT GRANT:
GNE20-236

Developing a Perennial Living Mulch System to Manage Insect Pests in Northeastern Cantaloupe Fields

Demian Nunez, University of Maryland, College Park MD
Advisor: Cerruti Hooks
\$14,955

RESEARCH AND EDUCATION GRANT:
LNE20-397

Implementing Rotational Grazing Practices on Livestock Operations in Maryland

Amanda Grev, University of Maryland, Keedysville MD
\$78,076

RESEARCH FOR NOVEL
APPROACHES GRANT: LNE20-405R

Silvopasture Pilot Project in Lancaster County, PA

Molly Cheatum, Chesapeake Bay Foundation, Annapolis MD
\$88,563

RESEARCH FOR NOVEL
APPROACHES GRANT: LNE20-406R

Creating an Ecofriendly Pest Suppression Program in Sweet Corn

Cerruti Hooks, University of Maryland, College Park MD
\$100,371

RESEARCH FOR NOVEL
APPROACHES GRANT: LNE20-408R

Managing Agricultural Drainage Ditches for Conservation Biological Control on the Delmarva Peninsula

William Lamp, University of Maryland, College Park, College Park MD
\$197,728

PROFESSIONAL DEVELOPMENT
GRANT: ENE20-160

Farm Stress Management and Resources for Maryland Service Providers

Shannon Dill, University of Maryland, Easton MD
\$96,645

PROFESSIONAL DEVELOPMENT
GRANT: ENE20-165

Maryland Extension Training: Solar Photovoltaic Options, Opportunities and Challenges

Drew Schiavone, University of Maryland, Keedysville MD
\$72,152

STATE PROGRAM: SNE20-006-MD

Cultivation of Asian Indian Vegetables on the Delmarva Peninsula

Naveen Kumar Dixit, University of Maryland Eastern Shore, Princess Anne MD
\$33,332



Massachusetts

FARMER GRANT: FNE20-959

Protecting European Grape Vines from Cold Weather Damage in New England

Ian Modestow, Black Birch Vineyard, North Hatfield MA
\$13,698

FARMER GRANT: FNE20-964

Testing Darwinian Honey Bee Breeding Protocols for Mass Replication: Evaluating the Efficacy of the “Walk-Away Split” as a Queen Rearing Method

Angela Roell, Yard Birds Farm & Apiary, Montague MA
\$14,953

GRADUATE STUDENT GRANT:
GNE20-229

Demonstrating the Importance of Behavior and Feed Delivery on the Growth Performance of Tautog in Recirculating Aquaculture Systems

Michael Coute, University of Massachusetts, Dartmouth MA
Advisor: Pinnguo He
\$14,537

GRADUATE STUDENT GRANT:
GNE20-238

Evaluating Entomopathogenic Nematodes for Biological Control of Apple Maggot Fly under Field Conditions

Dorna Saadat, University of Massachusetts, Amherst MA
Advisor: Jaime Piñero
\$14,770

GRADUATE STUDENT GRANT:
GNE20-245

What Makes a Local Food System Resilient? Lessons from Small and Midsize Farms during the COVID-19 Pandemic

Kristen Whitmore, University of Massachusetts, Amherst MA
Advisor: Elizabeth Brabec
\$14,654

PARTNERSHIP GRANT: ONE20-357

Establishing a Cooperative Farm Share Program in the MA Hilltowns

Kate Bavelock, Hilltown Community Development, Chesterfield MA
\$25,405

PARTNERSHIP GRANT: ONE20-374

Evaluation of New Hybrid Cranberry Cultivars with Improved Fruit Quality, Yield and Disease Resistance

Giverson Mupambi, University of Massachusetts, East Wareham MA
\$24,828

PARTNERSHIP GRANT: ONE20-378

Improving Access to Soil Carbon Proxy Testing: Training Educators to Monitor Soil Health

Caro Roszell, NOFA-MA, Barre MA
\$29,266

RESEARCH AND EDUCATION GRANT:
LNE20-394

Useful Financial Benchmarks: Skills, Data and Peer-to-Peer Learning for Farm Success

Margaret Christie, Community Involved in Sustaining Agriculture, South Deerfield MA
\$249,485

RESEARCH AND EDUCATION GRANT:
LNE20-399

Season Extension Strategies and Profitability in Dairy and Livestock Operations in New England

Masoud Hashemi, University of Massachusetts, Amherst MA
\$236,718

RESEARCH AND EDUCATION GRANT:
LNE20-402

Improving Production and Yield of Winter Greens in the Northeast

Susan Scheufele, University of Massachusetts, Amherst MA
\$84,948

PROFESSIONAL DEVELOPMENT
GRANT: ENE20-162

Farm Mentorship Training and Support Groups for Educators of Aspiring and Beginning Farmers

Jennifer Hashley, New Entry Sustainable Farming Project, Boston MA
\$158,265



New Hampshire

FARMER GRANT: FNE20-948

Reducing New England High Tunnel Heating Costs and Fossil Fuel Usage Utilizing an Earth Air Heat Exchanger

Dan Birnstihl, Hip Peas Farm, Hooksett NH
\$15,000

FARMER GRANT: FNE20-966

Exploring the Feasibility of Growing Microgreens in a Modified Cold Storage Room

Jennifer Wilhelm, Fat Peach Farm, Madbury NH
\$6,376

GRADUATE STUDENT GRANT:
GNE20-235

Understanding the Hydrodynamic Effect of Oyster Farms in Shallow Water Estuarine Environments

Spencer Marquardt, University of New Hampshire, Dover NH
Advisor: Diane Foster
\$14,848

PARTNERSHIP GRANT: ONE20-370

Improving High Tunnel Management with Soil Steamers through an Equipment Sharing Model

Amanda Littleton, Cheshire County Conservation District, Walpole NH
\$29,997

RESEARCH AND EDUCATION GRANT:
LNE20-403

Advancing Strawberry Production in the Northeast

Rebecca Sideman, University of New Hampshire, Durham NH
\$213,997

RESEARCH FOR NOVEL

APPROACHES GRANT: LNE20-413R

Attract-and-Kill Strategies for Sustainable Striped Cucumber Beetle Management

Anna Wallingford, University of New Hampshire, Durham NH
\$180,315

PROFESSIONAL DEVELOPMENT
GRANT: ENE20-166

Building Farm Financial Management Skills through Effective Distance Education

Seth Wilner, University of New Hampshire, Newport NH
\$163,612

STATE PROGRAM: SNE20-008-NH

Building Relationships & Establishing the NH Farm Network for Enhanced Farmer Support

Olivia Saunders, University of New Hampshire, Conway NH
\$43,374



New Jersey

FARMER GRANT: FNE20-952

Chemical-Free Vineyards

Steve Gambino, Villa Milagro Vineyards, Phillipsburg NJ
\$14,813

GRADUATE STUDENT GRANT:
GNE20-226

Honey Bee Responses to Blueberry Fungicides and Varroa Mitecides While Used in NJ Blueberry Pollination Services

Chelsea Abegg, Rutgers University, Mount Holly NJ
Advisor: Dean Polk
\$15,000

GRADUATE STUDENT GRANT:
GNE20-246

Developing a Thermal Shock Method to Control Disease and Biofouling on Oyster Farms

Heidi Yeh, Rutgers University, Port Norris NJ
Advisor: David Bushek
\$15,000

PARTNERSHIP GRANT: ONE20-371

Efficacy of Whole Herbs on Controlling Gastrointestinal Nematodes in an Alpaca Fiber Operation

Erin Masur, Hoof & Hound, Beachwood NJ
\$13,448

PARTNERSHIP GRANT: ONE20-373

Application of Shell Hash Cover as a Deterrent of Cownose Ray Predation on Hard Clam Farms

Daphne Munroe, Rutgers University, Port Norris NJ
\$29,997

RESEARCH AND EDUCATION GRANT: LNE20-395

Empowering Northeastern Strawberry Growers with Flower Mapping

Edward Durner, Rutgers University, New Brunswick NJ
\$137,819

RESEARCH FOR NOVEL APPROACHES GRANT: LNE20-407R

Reducing Water and Fertilizer Inputs by Incorporating Native Beneficial Bacteria in Sustainable Turfgrass Sod Production

Bingru Huang, Rutgers University, New Brunswick NJ
\$149,910

STATE PROGRAM: SNE20-009-NJ

Development of Hemp Production Resources for New Jersey

Michelle Infante-Casella, Rutgers University, Clarksboro NJ
\$39,462



Dale Ila Riggs of The Berry Patch at Stone Wall Hill Farm puts the final touches on insect exclusion netting in blueberries. Photo courtesy of Chris Callahan.

New York

FARMER GRANT: FNE20-950

Updating Roxbury Farm's Vegetable Crop and Harvest Manual for Wider Adoption

Jean-Paul Courtens, Philia Farm, Johnstown NY
\$14,970

FARMER GRANT: FNE20-953

Increasing Hudson Valley Farm Viability through Cooperative Bulk Purchasing

Faith Gilbert, Letterbox Farm, Hudson NY
\$14,466

FARMER GRANT: FNE20-957

Organic Control of a New Apple Disease: Marssonina Leaf Blotch

Louis Lego, Elderberry Pond, Auburn NY
\$13,949

FARMER GRANT: FNE20-961

Economic Feasibility of Caterpillar Tunnels on Urban and Small-scale Farms

Mayda Pozantides, Groundwork Market Garden, Buffalo NY
\$13,374

FARMER GRANT: FNE20-963

Design, Testing and Construction Education of a Post and Wire Support Structure for Insect Exclusion Netting on Field Grown Berries

Dale Ila Riggs, The Berry Patch at Stone Wall Hill Farm, Stephentown NY
\$15,000

FARMER GRANT: FNE20-967

Researching and Raising Awareness of Dynamic Accumulator Plants in the Northeast

Greta Zarro, Unadilla Community Farm, West Edmeston NY
\$14,996

FARMER GRANT: FNE20-968

Red Algae *Asparagopsis taxiformis* as a Feed Additive for Parasite Prevention in Organic Pasture Raised Sheep

Diane Zlotnikov, Zfarms, Dover Plains NY
\$15,000

GRADUATE STUDENT GRANT: GNE20-240

Improving Orchard Productivity Using Novel Disease Management Practices for Control of Apple Powdery Mildew in the Northeast

David Strickland, Cornell University, Geneva NY
Advisor: Kerik Cox
\$14,434

GRADUATE STUDENT GRANT: GNE20-242

Determine Whether Dietary Lysophospholipid Supplementation Enhances Immunity in Holstein Dairy Calves

Brianna Tate, Cornell University, Ithaca NY
Advisor: Joseph McFadden
\$15,000



“We were able to quantify the results of the different thinning methods using both objective and subjective measurements that provided us with ample data to make conclusions with real world effects.”

Michael Beneduce

Beneduce Vineyards

Farmer Grant, “*Comparison of Five Methods of Crop Thinning in Pinot Noir and their Effects on Fruit Composition and Wine Quality* (FNE18-885)

Photo courtesy of Michael Beneduce.

PARTNERSHIP GRANT: ONE20-363

Surveillance of John's Disease in Small Ruminants in Northern New York

Betsy Hodge, Cornell Cooperative Extension, Canton NY
\$26,950

PARTNERSHIP GRANT: ONE20-367

Determining the Optimum Quality Harvest Stage of Male-Sterile BMR Forage Sorghum

Thomas Kilcer, Advanced Ag Systems, Kinderhook NY
\$13,351

PARTNERSHIP GRANT: ONE20-369

Developing a Beginning Farmer Training Program for Western NY's Minority and Low Resource Farmers

Elizabeth Leipler, Providence Farm Collective, East Aurora NY
\$30,000

PARTNERSHIP GRANT: ONE20-376

Soil Carbon Capture for Diverse Farmers

Leah Penniman, Soul Fire Farm Institute, Petersburg NY
\$30,000

PARTNERSHIP GRANT: ONE20-380

Aphid Biological Control in Greenhouses with a Novel Banker Plant System

John Sanderson, Cornell University, Ithaca NY
\$26,229

RESEARCH AND EDUCATION GRANT: LNE20-396

Grain Storage Management Education for the Hudson Valley

Aaron Gabriel, Cornell Cooperative Extension, Hudson Falls NY
\$34,258

RESEARCH FOR NOVEL APPROACHES GRANT: LNE20-409R

Anaerobic Soil Disinfestation as Pre-plant Treatment for Perennial Strawberry in the Northeast

Laura McDermott, Cornell University Cooperative Extension, Hudson Falls NY
\$184,617

STATE PROGRAM: SNE20-010-NY

Reconnecting with Purpose: Renewing Agricultural Providers and Enriching their Service to Farmers

Violet Stone, Cornell University, Ithaca NY
\$166,665



Pennsylvania

FARMER GRANT: FNE20-956

Using A Kreger Farms Invented Interseeder to Profitably Plant Cover Crops into Varying Corn Growth Stages

Heidi Kreger, Kreger Farms, Morris PA
\$7,859

FARMER GRANT: FNE20-969

On-Farm Demonstration and Evaluation on the Use of Landscape Fabric in Mixed Produce and Cut Flower Production

Sabine Carey, Full Circle Farms, Spring Mills PA
\$14,976

GRADUATE STUDENT GRANT: GNE20-227

Evaluating the Implementation of and Farmers' Participation in Conservation Programs: A Case of PA Environmental Quality Incentives Program

Elsie Assan, Pennsylvania State University, University Park PA
Advisor: Anil Kumar Chaudhary
\$14,921

GRADUATE STUDENT GRANT: GNE20-232

Development of a PCR-Based Assay for Identifying Members of the *Pseudomonas syringae* Species Complex from Environmental Samples

Chad Fautt, Pennsylvania State University, University Park PA
Advisor: Kevin Hockett
\$15,000

GRADUATE STUDENT GRANT: GNE20-234

Development of an Automated Precision Spraying System for Sustainable Pest Management in Apple Orchards

Md Sultan Mahmud, Pennsylvania State University, Biglerville PA
Advisor: Long He
\$15,000

GRADUATE STUDENT GRANT: GNE20-237

Mapping Soil Microbiome Shifts During Pythium Disease Development in Soybean Seeds and Seedlings Under Different Management and Soil Conditions

Michelle Paukett, Pennsylvania State University, University Park PA
Advisor: Paul Esker
\$14,986

GRADUATE STUDENT GRANT: GNE20-239

Bacteriocin Repertoires in *Pseudomonas syringae* pv. Tomato

Mary Smith, Pennsylvania State University, University Park PA
Advisor: Kevin Hockett
\$15,000

GRADUATE STUDENT GRANT: GNE20-243

Understanding Emergence of Vegetable Vascular Wilt Disease from an Ecological Perspective

Emma Wallace, Pennsylvania State University, University Park PA
Advisor: David Geiser
\$14,930

RESEARCH AND EDUCATION GRANT: LNE20-398

Empowering Farmers to Comply with Food Safety Modernization Act (FSMA) Preventive Controls for Human Foods (PCHF)

Lisa Hall Zielinski, University of Scranton, Scranton PA
\$162,545



University of Vermont graduate student Jessica Cole received a Northeast SARE Graduate Student Research Grant to explore the role that flowering plants play in pollinator exposure to pesticides. Photo courtesy of Joshua Brown, University of Vermont.

RESEARCH AND EDUCATION GRANT:
LNE20-404

Environmental Constraints and Management Responses for Interseeding Cover Crops in Northeast Grain Rotations

John Wallace, Pennsylvania State University, University Park PA
\$199,674

STATE PROGRAM: SNE20-011-PA

Improving Farmer Engagement in Sustainable Agriculture using Participatory Learning Techniques

Kristy Borrelli, Pennsylvania State University, University Park PA
\$134,022



Rhode Island

STATE PROGRAM: SNE20-012-RI Producing and Marketing Saffron in Rhode Island

Heather Faubert, University of Rhode Island, Kingston RI
\$61,500



Vermont

FARMER GRANT: FNE20-960 Evaluation of Apple Cultivars for Hard Cider Production in the Northeast

Todd Parlo, Walden Heights Nursery & Orchard, Walden VT
\$8,980

GRADUATE STUDENT GRANT:
GNE20-228

Beguiling Flowers: Exploring the Role Flowers Play in Pollinator Exposure to Pesticides

Jessica Cole, University of Vermont, Burlington VT
Advisor: Alison Brody
\$14,871

PARTNERSHIP GRANT: ONE20-355

A Partnership for Improving Northeast Honey Bee Breeding Stock by Implementing Novel Selection Criteria

Samantha Alger, University of Vermont, Burlington VT
\$30,000

PARTNERSHIP GRANT: ONE20-358

Exploring Low-Phosphorous Wool Pellets as Fertilizer and Soil Conditioner for Vegetables

Terence Bradshaw, University of Vermont, Burlington VT
\$29,329

PARTNERSHIP GRANT: ONE20-360

Understanding Opportunities and Risks Associated with Alternative Milking Strategies

Heather Darby, University of Vermont, St. Albans VT
\$29,737

PARTNERSHIP GRANT: ONE20-361

Assessment of a Collaborative Milk Shed in Lamoille County, Vermont

Silene DeCiucies, Center for an Agricultural Economy, Hardwick VT
\$16,079

PARTNERSHIP GRANT: ONE20-362

Expanding Local Markets through Evaluating Sensory Characteristics and Agronomic Performance of Flint Corn Varieties

Roy Desrochers, University of Vermont, Burlington VT
\$29,185

PARTNERSHIP GRANT: ONE20-365

Field Assessment of a Novel Behavioral Disruptor for Spotted Wing Drosophila Management in Northeastern Berry Crops

Victor Izzo, University of Vermont, Burlington VT
\$29,999

PARTNERSHIP GRANT: ONE20-375

Expanding Farm Partnerships to Trial Human-Urine-Derived Fertilizer on New Crops

Abraham Noe-Hays, Rich Earth Institute, Brattleboro VT
\$28,187

PARTNERSHIP GRANT: ONE20-379

Evaluating "Flex Ear" Corn Varieties for Agronomic and Conservation Performance

Jeffrey Sanders, University of Vermont, St. Albans VT
\$29,363

RESEARCH AND EDUCATION GRANT:
LNE20-400

Biological and Cultural Tactics for the Control of Wireworms in Root Crops

Victor Izzo, University of Vermont, Burlington VT
\$116,189

PROFESSIONAL DEVELOPMENT
GRANT: ENE20-159

Developing Technical Skills of Service Providers in the Northeast to Assist Farmers with Production of Industrial Hemp

Heather Darby, University of Vermont Extension, St. Albans VT
\$185,371

STATE PROGRAM: SNE20-013-VT

Improving Sustainable Agriculture Programs in Vermont through Enhanced Evaluation Capacity & Needs Assessment

Beth Holtzman, University of Vermont, Barre VT
\$46,111



Heather Darby of the University of Vermont Extension received a Professional Development Grant to support the growth of industrial hemp production across the region.

Washington, D.C. West Virginia

GRADUATE STUDENT GRANT:
GNE20-233

Beyond the Fields Edge: Understanding How Adjacent Habitats Influence Ungulate Crop Damage

Justus Jobe, George Washington University, Washington DC
Advisor: Keryn Gedan
\$15,000

STATE PROGRAM: SNE20-016-DC

Washington DC Urban Orchard Professional Development Program

Matthew Gardine, University of District of Colombia, Washington DC
\$33,320



FARMER GRANT: FNE20-962

Low-Cost Self-Sustaining Year-Round High Tunnel Temperature Control

Tommye Raves, T. L. Fruits and Vegetables LLC, Caldwell WV
\$14,781

PARTNERSHIP GRANT: ONE20-377

Management of Powdery Mildew in Greenhouse and High Tunnel Tomatoes by Using UV-C Light

Mahfuz Rahman, West Virginia University, Morgantown WV
\$29,171

RESEARCH AND EDUCATION GRANT:
LNE20-401

Optimization of Preventative Biorational Strawberry Fruit and Root Disease Management Techniques

Mahfuz Rahman, West Virginia University, Morgantown WV
\$244,349

RESEARCH FOR NOVEL
APPROACHES GRANT: LNE20-410R

Designing and Building Centrifuges to Clarify Maple & Walnut Syrup

Michael Rechlin, Future Generations University, Frankin WV
\$49,824

RESEARCH FOR NOVEL
APPROACHES GRANT: LNE20-411R

UV-C Light Application Technology for Field-Grown Strawberries to Control Fungal Diseases & Arthropod Pests

Fumiomi Takeda, USDA ARS, Kearneysville WV
\$187,733

PROFESSIONAL DEVELOPMENT
GRANT: ENE20-161

Building Efficacy and Financial Success among WV Producers via Farmers Market Manager Education

Erica Gallimore, West Virginia Farmers Market Association, Charleston WV
\$85,958

PROFESSIONAL DEVELOPMENT
GRANT: ENE20-163

From Seed to Sale: Market-Driven High Tunnel Production Education for WV Agricultural Providers

Lisa Jones, West Virginia University, Morgantown WV
\$112,771

STATE PROGRAM: SNE20-014-WV

WV Beginning Farmer Mentorship Program

Doolarie Singh-Knights, University of West Virginia, Morgantown WV
\$43,918

STATE PROGRAM: SNE20-015-WV

Extending Grant Writing and Management Capacity with WV Agricultural Service Providers

Barbara Liedl, West Virginia State University, Charleston WV
\$16,664

**“Keep your face to the sunshine and
you cannot see the shadow. It’s what
sunflowers do.”**

– Helen Keller



Northeast SARE

140 Kennedy Drive - Suite 202 - University of Vermont

South Burlington - Vermont 05403

802.651.8335 - northeastsare@uvm.edu

www.northeastsare.org