

Rhode Island Department of Environmental Management
Division of Agriculture (RIDAG)

15-SCBGP-RI-0012
Specialty Crop Block Grant Program
FINAL REPORT

September 30, 2015 – September 29, 2018

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Final Report

Produce Safety Alliance (PSA) Training for FDA Regulatory Compliance

Project Director: Lori F. Pivarnik, Ph.D.

Award No./Total Award 15-SCBGP-RI-0012/\$20,131

Project Award: April 1, 2016 to September 30, 2018

Project Summary – Background, Importance

The overall goal of this project was to help maintain RI agricultural viability by offering RI based Produce Alliance Training for farmers and, to meet both regulatory compliance mandates for produce safety (FDA Food Safety Modernization Act - Produce Safety Rule) and/or buyer requirements. Specific objectives included: 1) have two URI outreach personnel (Food safety Coordinator for Outreach/Research and Agricultural Specialist), already versed in GAP, attend the PSA train-the-trainer; 2) offer PSA 1-2 day training to farmers that require the training and certificate for regulatory compliance; 3) offer PSA 1-2 day training to farmers who currently are not required by law to attend but consider this training important for expansion and buyers and ;4) collaborate with University of Connecticut food safety outreach educator to offer courses in both states.

Rhode Island has had a RIGAP program for many years in an effort to enhance on-farm food safety. This was a voluntary program. However, with the Produce Safety Rule and its standards, promulgated by the FDA Food Safety Modernization Act (FSMA), there is a training mandate specified in the rule to meet the requirements of the law. For those farmers that do not meet the exemption (gross sales, sales radius and degree of direct marketing), they will be required to take standardized training that was created by the Produce Safety Alliance (PSA). The PSA is collaboration between Cornell University, FDA and USDA to prepare growers to meet the regulatory requirements included in the FSMA produce regulation. While GAP certification will still be required by many buyers to assure on-farm food safety practices, this will be a third party audit system, not required by law – above the mandated standards for growing, harvesting, packing and holding produce for human consumption.

All farms that exceed the exemption requirements would have to participate in standardized training as developed by the PSA. Personnel attending this training will receive a certificate of completion from the Association of Food and Drug Officials (AFDO). The training must be given by professionals attended and successfully completed a PSA, 2-day, train the trainer. The trainer must then pass certain competency areas as determined by a take-home essay exam that would be reviewed by a cadre of PSA selected experts. Each farmer training must have at least one individual who is fully certified. Those farmers attending the required training can only get AFDO certificates from courses that have been properly registered by a lead trainer. Without Rhode Island-based lead trainers, RI farmers would have to travel to other states or pay for out of state trainers to come to Rhode Island. The training preference of the Produce Safety Alliance

(PSA) was for team teaching; therefore, training of 2 instructors for RI resulted in a both a better workshop and future sustainability for the RI training program.

Finally, it was estimated Ken Ayars, Chief Division of Agriculture, RIDEM that personnel from at least 15 farms will have to attend the mandated training to comply with the regulation to stay in business. However, other RI farmers that may be exempt from the rule would be encouraged to attend to meet potential buyer requirements or unknown future expansions. Finally, the RI GAP program would still be in place for those farms that do not need to comply and whose buyers accept RI GAP and would require on farm food safety strategies to be documented and certified through auditing. The PSA training would be used to train this audience as well through slight modifications and facilitate training for the stakeholders in this program – the RI farmers of fresh fruits and vegetables. The impact of this project is far reaching to the RI agricultural community as it would allow RI farmers to meet regulatory and/or buyer requirements, stay in business and grow.

Project Approach

The RI GAP program and outreach to farmers has been successful for 15 years due to the on-going partnership between URI and RIDEM/Division of Agriculture. While this project is not an extension of previously funded projects, the format for successful implementation of proposed programming was used for this project. This included yearly project partner meetings to review the status of the program and communicate on a regular basis. Partnering with the Division of Agriculture was critical to the success of this project as they are the current regulatory authority in Rhode Island for implementation of Produce Safety Rule. PSA training workshops were registered through AFDO so proper completion certificates could be obtained for the participants. Workshop announcements were sent by mail and farmer listserv in an effort to contact all RI farmers as well as posted on the PSA website.

Goals and Outcomes Achieved

This project was very successful, meeting and or surpassing all objectives and proposed indicators/accomplishments.

- Advisory group meetings were conducted and progress was reviewed. **OUR PROJECT PARTNER, RIDEM/DIVISION OF AGRICULTURE, HELPED REVIEW PROGRESS WITH EMPHASIS ON HOW TO BETTER OUTREACH TO FARMERS AND INCREASE AWARENESS OF THE PROGRAM/TRAINING AVAILABLE. FURTHERMORE, THEY HELPED IN ASSESSING THE RIGAP PROGRAM SO THAT KEY ELEMENTS OF THE PRODUCE SAFETY RULE ARE ALIGNED. THEY ALSO HELPED BY ADVERTISING THE TRAINING THROUGH THEIR NETWORK.**
- Two, URI personnel, successfully completed the 2-day Train the Trainer class. The course could not have been offered in RI economically and/or participants would not have been able to obtain the official training certificate recognized for regulatory compliance without going out of state if successful completion with the Train-the-Trainer were not

obtained. This included class attendance by potential trainer and essay test. Training preference of the Produce Safety Alliance (PSA) is for team teaching and training of 2 instructors for RI resulted in a better workshop and future sustainability for the RI training program. Furthermore, affordable, in-state training was more attractive to farmers that may be exempt but would still consider attending local training workshops.

- As proposed, three, 2-day workshops were offered in RI on 3/2017, 12/2017 and 6/2018 and successfully trained a total of 54 people that included 38 RI farmers reflecting 33 farms. In addition there were 8 regulators from RI departments of Health (Food Protection) and Environmental Management (Division of Agriculture). While the vast majority was from RI farmers, there was 1 farmer and 1 regulator that attended from CT and 6 “others” (i.e. academician, lawyer, consultant). Farmers represented those that were required to meet the regulatory mandates of the Produce Safety Rule and those that were considered either not covered by or qualified exempt from the rule. This surpassed the goal, originally proposed, of the anticipated impact of 25 farms/farmers trained and did not include regulatory personnel. All farmers – those that needed to comply with the rule and those interested in RI GAP certification – participated in the same training. Audiences were combined to facilitate training, fulfill the objectives of the project and familiarize all farmers with the requirements of the produce safety regulation (PSR). The curriculum was modified to incorporate information related to the RI GAP program and its audit. In addition, those farmers who may not currently need to fully comply with PSR, also obtained the official AFDO training certificate thus fulfilling of a key regulatory requirement and allowing future compliance if necessary – either through farm expansion or buyer requirements.
- All workshops were evaluated by participants using Produce Safety Alliance evaluation tool. The evaluation included a 5 point Likert scale (1=strongly disagree; 5=strongly agree). Participants rated their increased knowledge for key food safety components as it related to on-farm food safety strategies outlined in the rule and their confidence in assessing risk and implementing food safety practices. The evaluation included assessment of 1) Introduction to Produce Safety; 2) Worker Health and Hygiene; 3) Soil Amendments; 4) Wildlife, Domestic Animals and Land Use; 5) Agriculture Water – production and post-harvest 6) Post-harvest handling and sanitation and 7) Development of a Food Safety Plan. All these elements, reflected in the FDA Produce Safety Rule are also important components in the RIGAP program. Evaluations were given to each participant and data was collected, anonymously, at the end of each workshop and quantified based on the 5 point Likert scale.
 - RI Workshop #1, 3/2017: 29 participants completed the 2-day class that included 21 farmers from 17 farms, 6 regulators, 1 academician and 1 other. The self-assessment of knowledge gained and implementation confidence was 4.16. Twenty-seven (27) AFDO certificates of training were issued.

- RI Workshop#2, 12/2017: 12 participants completed the 2-day class that included 7 farmers from 6 farms, 1 regulator and 4 other (e.g. lawyer, food consultant). The self-assessment of knowledge gained and implementation confidence was 4.61. Twelve AFDO certificates of training were issued
- RI workshop #3, 6/2018: 13 participants completed the 2-day class that included 11 farmers from 11 farms, and 2 regulators. Thirteen AFDO certificates of training were issued. The self-assessment of knowledge gained and implementation confidence was 4.91.
- There was successful collaboration between the Universities of RI and CT for delivery of the PSA training for FDA regulatory compliance. Certified PSA lead instructors from each state collaborated, when possible, with the delivery of training. This collaboration also resulted in sharing of information and better understanding of course materials and PSR rule. Participants benefitted from this collaboration. Project coordinators in the states teamed to offer workshops – 3 in RI and 2 in CT (3/2017 and 3/2018). Evaluation results of CT workshops will be presented in their final report.

Beneficiaries

The beneficiaries of this project is far reaching to the RI agricultural community as it allowed any and all RI farmers to meet regulatory and/or buyer requirements, stay in business and grow. Overall there were 54 beneficiaries from the RI training: 38 RI farmers from 34 farms, 8 regulators, 1 academician and 5 others (e.g. lawyer, food consultant) and 2 participants from Connecticut (one farm, one regulator). In addition, a certified PSA trainer assisted in the training of two (2) CT workshops that trained 62 participants.

Finally, this project helped provide leverage for successful collaboration with RI Divisions of Agriculture and Center for Food Protection in the procurement of FDA funds (State Cooperative Agreement) of which URI is a participant. Responsibilities include continuation of PSA training for farmers regarding the Produce Safety Rule and thereby continue to benefit RI farmers.

Lessons Learned

Collaboration with both neighboring states and food safety colleagues and state regulatory authority is the only way that programs can successfully implement the new Produce Safety Rule. RI farmers are considered very small or small operations and tend to be resistant to change and the implementation of the food safety regulations. This issue is probably the same in other states. This makes communication more difficult. However, while the initial workshop included

“venting”, subsequent workshops have not been as contentious. It takes time. The instructors have also learned from the farmers as to the barriers that have to comply and, through regional networking, try to help by incorporating information.

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PROJECT TITLE: HARVESTING RHODE ISLAND
Harvesting Rhode Island

Specialty Crop Grant 15-SCBGP-RI-0012

Final Report

PROJECT SUMMARY

PROJECT PURPOSE

This proposal was a request for the continuation of funding of the series “Harvesting Rhode Island” that has been highly successful in the representation of specialty crop farmers. The first season of the series represents eleven locations and twenty-two interviews, covering a wide variety of crops. However, there were many additional farms and farmers that harvest crops not covered in the first series. These farms needed to be represented providing additional information to the consumer. There has been an abundance of positive publicity from the local press in the state on the series. The initial premier of the series was aired on television during 24 time slots plus additional showings. With each airing as many as 7,000 to 10,00 people viewed the five episodes. To this date the series is still being aired on Rhode Island PBS.

The central story of Rhode Island’s specialty crops is how the farmers have responded to changing technology and markets so that they can continue to succeed in a business that is inherently risky and fraught with economic uncertainty. Growers have had to balance the traditional approaches that were handed down to them with the variable realities of today’s business climate. In the latter part of the twentieth century, local wholesale markets began to shrink due to large retailers’ and national distribution systems. As a result growers increased their direct marketing through on-site stands, pick your own programs, farmers’ markets, and selling through Farm Fresh to local retailers. This direct approach has in turn stimulated diversification to satisfy the eclectic tastes of increasingly sophisticated consumers. Growers now cultivate an array of both fruits and vegetables, and some are making and selling prepared foods.

The “Buy Local” movement has become popular and stronger over the past several years. “Sustainability” has become an important word among the farmers and the public. **A large number of consumers in Rhode Island were unaware of the locations and variety of crops that are grown in the state.** Most consumers who purchase local products in the retail stores have never been to the farms harvesting the products. If the “Buy Local” movement is to grow at a faster pace the farmers need an **outlet** where they can tell their stories about the farms and the products they are harvesting. *The time is right to continue this sophisticated advertising campaign providing information to the*

consumers about the locations of the farms, the crops they harvest, and where they can purchase the products. The television series educates the consumer about specialty crops by bringing them on location to the farms where they can see and listen to the farmers talk about the crops and where they can be purchased; including retail stores on the farms and farmers markets. The educated consumer plays an important role in the economic development and sustainability of the farms.

This project has provided a marketing strategy for the farmers involved in the project. This type of marketing is not financially possible to the farmers with their current budget of operations.

The funding of the second specialty crop grant provided an additional seven half hour shows to be aired on Rhode Island PBS covering 16 locations interviewing over 20 farmers. Season one of Harvesting Rhode Island has developed an audience through Rhode Island PBS who are currently waiting for the second season to be aired. The new series has been given prime time each week for airing

PROJECT APPROACH

WORK PLAN

The host of the pilot worked with an established television crew and Rhode Island PBS personnel to carry out the activities. Alex Caserta hosted and produced the episodes and worked with the director, filmmaker, and editor. Mr. Caserta also worked with individuals at the Department of Agriculture to collect information for the development of the scripts for production and contacted the farmers. Mr. Caserta created a new web site attached to the current site. The seven episodes were filmed on location at Rhode Island farms that harvest a variety of specialty crops. Each episode interviewed between one to three farmers for a total of over twenty farmers. The farmers were selected according to the crops they harvested and location in the State of Rhode Island. As part of the interviews farmers were questioned on the variety of ways they market their products to the public (farmers markets, local retail markets, direct retail building on farm). The farms selected were different from the ones highlighted in the first five episodes.

The sixteen farms included two farms growing flowers, one sod farm, four farms growing mostly vegetables, one beekeeper, one interior hydroponics farm, one micro greens interior farm, two historical farms, one topiary farm, one Christmas tree farm, one farm growing hops and Christmas trees, and one vineyard. The farms are located in thirteen towns representing Johnston, Hope, North Kingstown, Hopkinton, Westerly, Central Falls, Saunderstown, Exeter, Portsmouth, Narragansett, Little Compton, Middletown and Tiverton Rhode Island.

TIMELINE

The project began with the collection of information on specialty crops farmers who were contacted prior to production. A timeline was established that addressed the growing seasons. Additional activities during the non-growing season were included in the series.

- **April 2015** – Research information on seasons for harvesting specialty crops. Develop a benchmark for the collection of data by the producer.
- **May 2015** - Developed storyboards for seven episodes.
- **May – November 2016** – Production (Filming on location and editing)
- **December-March 2016 – 2017** Editing
- **Spring 2017** Airing of episodes on Rhode Island PBS.

Project Partners

The director of programming, David Marseglia with Rhode Island PBS assisted with the timeline for the broadcast of the new series. He was also a large asset in securing a prime time television slot for the series to be aired. Ken Ayars, Chief of the Department of Agriculture and Peter Susi, Deputy Chief assisted with information on selected farms. Heather Faubert from the University of Rhode Island also assisted with suggestions on farmers.

Sixteen farmers have made time available from their busy schedules for interviews. Each interview lasted on an average of three hours. Information was provided by the host to the farmer prior to filming and again on camera. The interviews include information on family history of the farms, the farmer's education and internships, products harvested, and insight into the future of the farming industry. In addition to filming the interviews an abundance of B roll was shot for production to be use in the episodes. Rhode Island PBS has also established a growing audience for Harvesting Rhode Island. The first five episodes have been aired a number of times during the past year reaching an audience of over 100,000 viewers.

GOALS AND OUTCOMES ACHIEVED

The following is a calendar of the locations where filming and interviewing has taken place.

Specialty Crop Calendar 16 Locations

MAY

Wicked tulips 90 Brown Ave. Johnston, RI 02919

AM / Wed. 5/11/16

Keriann and Jeroen Koeman

400-2806 cell: 434-242-6369

info@ecotulips.com

Confreda Farms 2150 Scituate Ave. Hope, RI 02831

827-5000 Vincent owner cell: 639-2154

AM/ Wed. 5/11/16

vconfreda@aol.com

SODCO Sod Farm, South County Linda Tucker 294-3100

PM Wednesday 5/18/16

Pat Hogan / Owner John – general manager

JUNE

Don Joslin 535 Main Street, Hopkinton, RI

AM / Wed. 6/1/16

207-6879 djoslinsr@version.net

Manfredi Farms 77 Dunn's Corner Road, Westerly, RI

PM / Wed. 6/1/16

742-3850 Richard Manfredi

manfredifarms@yahoo.com

Pezza Farms 2279 Plainfield Pike, Johnston, RI

PM/ Wed. 6/8/16

943-2707 Doreen Pezza

ACOPIA HARVEST 712 Broad Street, Central Falls, RI 02863

AM Wed. 6/8/18

Amy Chavin 481-5578

amylynnschuvin@gmail.com

Robin Hollow Farm 1057 Gilbert Stuart Road, Saunderstown, RI
AM / Wed. 6/15/16 Polly and Mike Hutchison
294-2868 polly@robinhollowfarm.com mike@robinhollowfarm.com

Farming Turtles 174 South Rd., Exeter, RI
PM Wed. 6/15/16
Lori Roberts 294-5203

JULY

Green Animals 380 Cory's Lane, Portsmouth, RI
AM / Tuesday. 7/5/16
Preservation Society of Newport 847-1000
Andrea Carneiro 847-1000 ext. 131
Patricia Bailey cell: 662-1807 triciabailey@mac.com

Sunset Farm - 505 Point Judith Road, Narragansett, RI.
AM / Friday 7/15/16 450-2891
Ethan and Jeff Farrell

Pachet Brook Tree Farm – 4484 Main Road, Tiverton
PM Thursday 7/21/16 cell: 473-5935
jhelgerbento@gmail.com Jean Bento

Cole Walker Farm. 261 West Main Road, Little Compton, RI
AM / Thursday 7/21/16
cmw32245@gmail.com 635-4719 cell:529-2463

Tilted Barn Beer Co. 1 Hemsley Place, Exeter, RI
PM / Thursday 7/28/16 829-6008 Matt.
matt@tiltedbarnbrewery.com

Luckyfoot Ranch 1337 Gilbert Stuart Road, North Kingstown
Friday / AM 7/28/16 luckyfootranch@yahoo.com
Matt: cell 481-6203

September

Newport Vineyards Eastgate, 909 Main Road, Middletown, RI 02842

Hard Cider- Coyote 848-5161 ext.111

Owners: John & Paul Nunes cell: 965-1804

Tuesday AM 8/30/16

john@*newportvineyards.com

cassandra@newportvineyards.com

GOALS

- A. To enhance the *competitiveness* of Rhode Island specialty crop farmers from growers outside the state.
- B. Provide an *outlet* for the *promotion and marketing* of local Rhode Island specialty crop growers.
- C. Provide the consumers who live in Rhode Island and nearby Massachusetts with the *locations of farms* in Rhode Island and the *crops available* for *marketing* and products to be purchased from nursery farms and farmers markets.
- D. *Educate* the public from young to old on the *variety of specialty crops* in the State.

LONG TERM ACCOMPLISHMENTS

A new website has been created featuring the farmers included in the episodes. Informational material and photographs are located on the website. The website can be used by the Rhode Island Department of Environmental Management, Division of Agriculture, The Rhode Island Farm Bureau, Rhode Island PBS, the farmers included in the episodes on their website, the Division of Cooperative Extension-University of Rhode Island, and the Preservation Society of Newport County.

Rhode Island PBS will be airing the seven episodes throughout the year of 2017-18 extending the growth of the viewing audience. Information on the show will also be included using social media outlets. Newspapers from various towns will provide coverage before the airing of the episodes. Rhode Island PBS is broadcasting the new promotional spot about the new series. And information will be on social media.

The project has met the established goals according to the time lines set for the grant. A strong relationship has been established with the staff working at Rhode Island PBS. There is an established audience that been created anticipating the new series. The Director of programing at Rhode Island PBS has expressed to the producer the need for this type of public broadcasting with a desire to air future episodes on farming.

Arrangement of farms to be aired on Rhode Island PBS
7 episodes / 16 farms 2016-2017

- | | | |
|-------------------------|------------------------|----------------|
| 1. Sunset Farms | Pezza Farm | |
| 2. SODCO | Pachet Brook Tree Farm | |
| 3. Robin Hollow
Bees | Wicked Tulips | Don Joslin – |
| 4. Tilted Barn | Newport Vineyards | |
| 5. Farming Turtles | Acopia Harvest | Manfredi Farms |
| 6. Cole Walker | Green Animals | |
| 7. Luckyfoot Ranch | Confreda Farms | |

BENEFICIARIES

First and foremost the farmers who participated in the project will receive the largest impact. Each farmer will receive over \$10,000.00 worth of free marketing on television that individual budgets could not support. Each showing on television reaches between seven to ten thousand viewers who will learn about their farms. The episodes will air throughout the 2017 season and into 2018.

Consumers in the State of Rhode Island will have information provided to them through the television series. They will learn about farms, their products, and where they can purchase the products. The films include an educational component providing information on the operations of the farming business. The discussions that take place during the interviews provide in-site into farm to table and the buy local movement. Educating the consumer helps develop a positive attitude about farming. The consumers will develop an educated understanding of why it's important to support the local farms.

Rhode Island PBS has developed a successful partnership with the producer of the show. The project has provided information that is current and important to the PBS community. The network has received positive feedback from the series and has developed an audience waiting for the second series to air in the spring of 2017.

As a result of this project a large amount of information has been produced on paper and in digital format. This information will be stored in archival format to be used by the Department of Environmental Management, Division of Agriculture. It will be available for research to the public. Information and photographs are also available and located on the website funded by the project.

LESSONS LEARNED

The project staff is proud of the number of farms, the variety of products they produce, and the spread of locations in the state where the farms are located.

The conversations and interviews offer an abundance of information on the local farming industry. The farmers offered their support and on the average spent three hours with the host and production crew. Their comments showed enthusiasm about the quality of the products they harvest and the television series. From past experience with the first five episodes of Harvesting Rhode Island a minimum of 10% increase in sales should be expected for the farmers.

The project has been a success without any negative experiences. Some of the locations demanded that the production crew and host devoted a full day on one farm. Due to extra time spent on several farms the production crew and host had to film on additional days to cover the number of farms. Two extra farms were included in the project above and beyond the original plan. The schedule still allowed the crew to complete the task with positive results. Shooting on location began in May and continued through November. The spread of time was based on the schedules of the farmers in terms of when they were available. Some was based on the variety of crops growing at different times of the year.

CONTACT PERSON

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Increasing Regional Awareness of Rhode Island Specialty Crops
Rhode Island Agricultural Council
Final Report—July 2018

PROJECT SUMMARY

Specialty crop producers serve many valuable roles in our communities. They provide healthy food, support the local economy, and enhance our quality of life through scenic views and open spaces. On one hand, RI agriculture is enjoying recognition it has not had for decades.

On the other hand, there are many factors working against a thriving agricultural sector. The primary of these is, ironically, economic. Many members of our community—both farmers and non-farmers—are struggling financially. When consumers allocate their purchasing dollars, price is often the determining factor. Therefore consumers will often buy cheap over local, even though local purchases result in greater economic benefit to their state, and by extension themselves.

This problem is highlighted in the 2012 Census of Agriculture that records an 11% *decrease* in the average market value of products sold *per farm* from 2007. In order to build a truly sustainable agricultural community, we must invest in increasing per farm *income*, not just the number of farms or the number of farmed acres.

At the same time, the Rhode Island Agricultural Council (RIAC) had recently elected a new executive board that was eager to reevaluate the role the RIAC can, and should, play in Rhode Island agriculture. The confluence of factors prompted the RIAC to engage in this advertising/ marketing campaign to increase the visibility of both RI specialty crops and the RIAC.

The funding from this grant enabled us to engage in a multi-faceted promotion and education campaign. Outputs from this project include: a redesigned RIAC website that features RI specialty crop organizations, pamphlets educating the public about the RIAC and its member organizations, a traveling display highlighting RI specialty crops, and a high-quality booklet educating people on RI specialty crops and the RIAC.

PROJECT APPROACH

The RIAC seeks to support all of RI agriculture, so any advertising of the RIAC will naturally serve both specialty and non-specialty crops. To ensure grant funds only covered activities benefitting non-specialty crops, we employed a couple strategies. First, we assessed the proportion of our members that were involved in specialty crops. We determined that approximately only 4% of our members solely supports non-specialty crops. The remaining 96% solely supports specialty crops or engages in general agricultural endeavors such as land stewardship, agricultural education, and water quality that is applicable to specialty crop producers. We therefore estimated the non-specialty crop portions of our RIAC expenses as 10% (to accommodate the proportion of non-specialty crop endeavors our members may engage in) and contributed that percentage of expenditures from our organization's resources.

Second, we ensured that any products developed under this grant featured only photos of specialty crops and included a significant textual emphasis on specialty crops.

Product Development

A key element of this project was development of educational materials to inform the public of the value of locally-produced specialty crops and the ways in which the RIAC supports the producers of those crops.

Over the course of the project we developed and produced:

- 2,500 tri-fold brochures on the role of the RIAC, with an additional focus on specialty crops
- A 3-panel table-top display educating viewers on RI specialty crops and the RIAC's member organizations
- 3,000 8-1/2" x 11" booklets describing the importance of specialty crops to RI's economy, history, and quality of life and featuring each of the RIAC's member organizations
- 3,000 [surveys](#) for inclusion in the booklets to assess the effectiveness of the educational campaign
- An online version of the survey to encourage a greater response rate
- An updated RIAC website (<http://riagcouncil.org/>) that includes a responsive layout, member pages, facts on RI specialty crops, and opportunities for greater community engagement



RIAC Secretary Stephen Logan and President Kristen Castrataro share information about RI Specialty Crops at the 2018 Ag Day at the State

Over the course of this project, we have found these advertising materials to be well-received. Project leadership frequently received compliments on the quality and appearance of the display. At the 2018 Ag Day at the State House, one vendor actually asked where and how the display had been created, as they hoped to develop a similar one. This is quite an accomplishment for an organization who did not *have* a display prior to this project.

Awareness-raising Activities

Developing materials is one thing; using them to effectively promote specialty crops and the



RIAC is altogether different. In order to accomplish our goals, we had to distribute and promote the materials.

As far as sheer numbers are concerned, we far exceeded our goals for exposure. Our presence at events resulted in an indirect audience of over 200,000 individuals and direct contact with over 1,000. Because the display will outlast the grant term, that impact will only continue to grow. Each of our 33 member organizations took brochures to distribute to their members and/or members' customers, meeting that goal.

Specific awareness-raising activities we undertook include (but are not limited to) bringing the display and related materials to:

- Washington County Fair
- RI Ag Day at the State House
- RI Raised Livestock Annual Meeting
- RI Sheep Coop Annual Meeting
- RI Maple Syrup meeting
- FFA events
- RI Envirothon meetings
- Little Rhody Poultry Fancier shows
- Southern RI Conservation District events

The varied nature of these events allowed us to reach a wide range of individuals: producers, students, consumers, and policy makers.

In addition, we submitted articles to Country Folks, a regional agricultural paper with a print distribution of 5,000 subscribers. A final article will be submitted as well. The following articles were also available online and have been attached as either a full-text reproduction or a snapshot of the version posted to my Facebook page (<https://www.facebook.com/KCastrataro/>).

<https://countryfolks.com/?s=Rhode+Island>

Project Partners' Contributions

Our main project partners were the members of the RIAC. All of our members participated by taking flyers for distribution. Over half participated by either bringing the display to outside meetings or assisting in events such as the Washington County Fair. While we have not yet met our 100% engagement goal for the display, we expect to keep working towards that in the future. We also received permission from Farm Fresh RI to include their produce availability calendar in our brochure, which was a valuable addition to that publication.

GOALS AND OUTCOMES ACHIEVED

Measurable Outcomes

Our greatest numerical success has been in the amount of direct and indirect contacts we made with beneficiaries through the display. In that respect, we nearly trebled the amount of contacts we targeted, due in part to larger-than-anticipated attendance at many of the events we attended.

We have, however, found it difficult to achieve some of our other goals. As noted previously, we expected 100% of our member organizations to bring the display to their events. In actuality, about 60% did so. Those that did take the display did not keep close records of the numbers of materials distributed, despite having the resources to do so.

The reality is that, although our delegates supported this project on a philosophical level, most of them were stretched too thin with their commitments to their primary organizations to donate time to picking up the display materials or even contacting the project manager for assistance. This has reiterated the point that the three meetings a year must serve as the primary venue for supplying members with advertising materials and the like. The display will continue to remain a key element of Ag Council's presence at Ag Day at the State House, the Washington County Fair, and other meetings that the leadership will be able to attend.

For general purposes, however, items such as the brochures and final reports/surveys will be distributed at every meeting to every member for distribution and will serve as our primary source of member-driven outreach. Delegates are eager to take materials provided at the meetings and use them alongside their own publicity materials, perhaps because it allows them to support the RIAC without requiring an additional time commitment. We will therefore seek to

maximize that method.

As of this time, the website has not appreciably increased in traffic. We suspect the fact is that the RIAC primarily exists to support our member organizations, so when the general public is searching for topics, our member organizations will generally be their best resource. We therefore are going to refine our online presence to better assist our members with their needs and to boost traffic by being more helpful to them. To that end, we will continue to modify the site and hold a more publicized "launch," with a goal of also including a blog that will be updated on a weekly basis and address topics identified by delegates at our regular meetings.

From a long-term perspective, we have actually made some important strides over the course of this project:

- Membership engagement with the RIAC display at the Washington County Fair has seen a marked increase, both in members providing information, those manning the booth, and those helping in daily set-up and tear-down.
- This grant has provided the leadership and the members an opportunity to evaluate their role in the state's agricultural community and make plans to increase their visibility and usefulness.
- The RIAC has been approached by individuals (none of whom have been attendees at Ag Council Meetings) to assist in advocacy measures on state- and nation-wide scales, which we have done with favorable results.
- The RIAC successfully petitioned for the creation of an agricultural charity plate and is in the process of garnering the required sales.
- The RIAC purchased plate holders and has already sold enough to meet cost.

These are new activities for the RIAC and show both an increase in the agricultural community's trust in the organization and the organization's willingness to involve itself in matters that require sustained commitments.

Beneficiaries

Our indirect contacts through our presence at events numbered over 150,000 people. The vast majority of those were current or potential specialty crop consumers. During our grant period, we also benefited every specialty crop producer in the state by successfully assisting a local farmer in his attempts to move management of the Produce Safety Rule (under FSMA) to the RI Division of Agriculture. We also worked with another local farmer on the much-publicized railroad issue, which has also been resolved to the farmer's satisfaction. These are roles the RIAC has not often undertaken in the past.

We will also have reached at least 3,000 consumers directly when the last of our specialty crop brochures are distributed. We expect each consumer to be motivated to purchase at least \$100 more local product as a result of that publication.

LESSONS LEARNED

This project has been a great learning opportunity for the RIAC. Most of the lessons learned exceed the scope of this project, but will hopefully serve to make us a more vital, effective organization in the future. These lessons include:

- **The RIAC must be bigger than one or two people.** The most effective leadership for this organization is leadership that can mobilize our resources, not carry the weight alone.
- **The RIAC must work to achieve its goals by strengthening members to better accomplish their current goals rather than creating new responsibilities.** The truth is, our members are busy with their main organization(s), their professional lives, and their personal lives. The RIAC needs to find ways to be effective without unduly pressuring or burdening our already over-committed membership.
- **The RIAC can be effective in liaising with state and national leaders and the public on grave matters affecting agriculture.** Keeping in mind the time restraints mentioned above, the RIAC has been able to affectively support important legislation throughout this grant period. By keeping abreast of current events and being involved in the discussions, we can be a valuable resource.
- **The most effective means of engaging delegates in publicizing the RIAC is by maximizing contact at regular dinner/business meetings.** When offered promotional materials at meetings, delegates eagerly take what is provided to share alongside their own materials. This is the most effective way of engaging our members without placing additional burdens upon them.
- **The display is most valuable for when the RIAC is representing itself, as opposed to playing a supporting role to a member organization.** The display is attention-grabbing and effective, but member organizations understandably feel a greater need to promote their primary organization. Therefore, the display is best utilized when those with the display are specifically tasked with educating people about the RIAC.
- **Philosophical commitment often requires additional incentives to translate into action.** If we were to design this project again, we would have included additional funding for attending meetings and tracking contacts that would have been distributed to member organizations after completing those tasks. It is our belief that even a small amount of remuneration would have served to justify any extra effort they had to take.

- **The RIAC website is a primarily a resource for our member organizations, with the general public secondary beneficiaries.** As we move forward, our web presence will become more useful to our members while still offering valuable information to consumers.

We look forward to taking these lessons learned and continuing to improve the work of the RIAC.

CONTACT PERSON

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ADDITIONAL INFORMATION

[Increasing Regional Awareness of Rhode Island Specialty Crops: A Product of the Specialty Crop Enhancement Program 2016-2018](#)



Rhode Island Agricultural Council awarded grant

[March 31, 2016 in Country Folks](#)

The Rhode Island Agricultural Council (RIAC) has been awarded a Specialty Crop Block Grant (SCBG) in the amount of \$14,291 to be conducted from April 1, 2016 to March 31, 2017...

<http://countryfolks.com/rhode-island-agricultural-council-awarded-grant/>

For insight into Rhode Island's farming community, look into the RI Agricultural Council



The Richmond Grange served a stuffed chicken dinner before the business meeting.
Photo by Kristen M. Castrataro

by Kristen M. Castrataro

With almost three-dozen member organizations, the Rhode Island Agricultural Council (RIAC) encompasses nearly every aspect of the state's farming industry. They meet three times a year for dinner, member reports and general business. Their most recent meeting occurred in May at the Richmond Grange.

One highlight of RIAC meetings is hearing about special events slated for upcoming months. The recent Farm Olympics (June 3) and 4-H Club Foundation golf tournament (June 4) were mentioned. The RI Dahlia Society will have its annual show at the 50th Annual Washington County Fair Aug. 20 and 21, and will host its big show Sept. 10 and 11.

Another reason delegates attend is to share the research and/or trainings being conducted by their organizations. Extension Specialist Andy Radin from the University of Rhode Island will be involved with creating a 5-year strategic plan for Extension and will be conducting variety trials of asparagus and day-neutral strawberries.

The RI Maple Syrup Producers demonstrated how to make maple cream at the Ashaway Grange on May

22. The RI Dairy Goat Association is planning a series of workshops, including one on Soap Making.

The Rhode Island Farm Bureau is sponsoring seminars on tractor safety (in conjunction with RI Northeast Organic Farming Association), the sales of development rights ("Buy, Protect, Sell" Program), and succession rights.

The RI Envirothon held its State Competition on Invasive Species. Eight schools, including two middle schools, participated. The winning team will travel to Ontario to compete there.

At its heart, the RIAC is a place to get the thumbnail sketch of the current state of RI Agriculture. The RI Maple Syrup Producers presented their crop report. Tapping began in January this year. The four-week season averaged first boils on Feb. 5 and last boils on March 10. Sugar content of taps averaged 1.3-1.4 percent. 7,415 taps yielded 960 gallons of syrup that generally graded dark robust with strong taste.

Gary Keough from the National Agricultural Statistics Service announced that RI Grape Production Values have been published. The Honey Bee Colony Loss Survey has been released,

but state results for Rhode Island and New Hampshire cannot be published due to the small sample size. On average, however, New England shows lower losses than other parts of the country. The June Acreage Survey is beginning.

RI Agriculture is something to celebrate. This year the RI Ayrshire Club shares a 100th Anniversary with the Big E and herds from all over the United States will be attending and showcasing state-specific objects.

The FFA Alumni are putting an addition on their pie booth at the Washington County Fair. The booth generates \$12-14,000 that benefits their Project Scholarship Program to provide materials for student projects.

The South Side Community Land Trust's plant sale sold 30,000 plants that were grown on a three-quarter-acre production farm. They have received funding from LASA, the Beginning Farmer/Rancher Development Program, and United Way that will expand their work to include a 1.5-acre garden, 10,000 square foot Youth Farm, eight acres of community gardens and train four socially-disadvantaged apprentices on farms around the state.

The FFA Association held their convention at Exeter Chapel April 28. National Treasurer Nick Baker attended. This year Rhode Island has seven officers attending the blast-off in Exeter and undergoing leadership training in New York.

Rhody Fresh is continuing to expand its product line with Grab & Go Pints and hopes to have them available for the Washington County Fair and the Big E.

The RI Dairy Goat Association was able to work with a veterinarian from Connecticut to provide farm visits at a 50 percent discount. Goat dairies were tested for Caprine Arthritis Encephalitis (CAE).

Matt Green from the RI Department of Environmental Management's Division of Agriculture announced the opening of many summer farmers' markets. Senior coupons will be available in June. He thanked those who participated in Ag Day at the State House and reviewed the Local Agriculture and Seafood Act grant recipients.

Legislative issues also get time at RIAC meetings. The RIFB is working to allow farm vehicles that do not have plates to travel on public roads under the farm insurance policy.

A bill originally intended to streamline the wetlands approval process for builders has become a rewrite of existing wetlands laws. RI Senator Sosnowski is trying to get farmlands

exempted from the new regulations altogether. Due to the complexity of the issues, the revision committee has been given a six-month extension to present a final version.

One mandate of the RIAC is advocacy. Under that aegis, 2nd Vice-President Peter Stetson showed a mock-up of the "I Support RI Agriculture" plate frames being printed. Frames will be sold for \$5 apiece, with extra proceeds being used to fund grants to member organizations.

President Kristen Castrataro also showed a draft of a RI Agriculture Charity Plate the Association is proposing. She gave a summary of progress made on the Specialty Crops Grant the Council received, including a new traveling display, preliminary updates to the website, and opportunities for member organizations to participate. The display will feature prominently at the Council's booth at the Washington County Fair.

From the Governor down, Rhode Islanders are coming to appreciate the breadth and value of their state's agriculture. Nowhere is that more evident than the RI Agricultural Council.

PROJECT TITLE

**The Rhode Island Farm to Cafeteria Project
FINAL REPORT**

PROJECT SUMMARY

Provide a background for the initial purpose of the project, which includes the specific issue, problem, or need that was addressed by this project.

Describe the importance and timeliness of the project.

If the project built on a previously funded project with the SCBGP or SCBGP-FB describe how this project complemented and enhanced previously completed work.

There is significant public interest in expanding Farm to Institution connections as the next frontier of regional food systems development. In light of new, improved nutrition requirements in K-12 schools and the inclusion of local specialty crops in meals, the food environment in public schools remains precarious. While all 36 RI public school districts purchase local specialty crops, only a few do so in a way that encourages farmers to expand their capacity. There is potential for more consistency of purchases. However community members must be engaged in demanding local specialty crops in the meals.

Farm Fresh Rhode Island's Farm to Cafeteria program engaged in a systematic approach to increasing demand of Rhode Island grown specialty crops in school cafeterias. Farm Fresh RI assigned a Farm to Cafeteria associate to targeted RI School District Wellness Committees, helping to facilitate and bolster policy efforts through wellness initiatives in each district. Chef educators offered nutrition education programming in these same cafeterias and classrooms to build awareness of and demand for specialty crops from their constituents. This two-pronged strategy is working to engage school community leaders, students and their food service providers in the support of RI-Grown specialty crops.

This project built off a success Specialty Crop Block Grant in 2015, funds from which created the Harvest of the Month collateral materials and paid for staff time to introduce school purchasers and administrators to the program. The success of this work laid the groundwork for the Harvest of the Month program to grow, and to become a systemic approach promoting the purchase of locally grown specialty crops by schools.

PROJECT APPROACH

*□□ Briefly summarize activities and tasks performed during the entire grant period. Whenever possible, describe the work accomplished in both quantitative and qualitative terms. Specifically, discuss the tasks provided in the **Work Plan** of the approved project proposal. Include the significant results, accomplishments, conclusions and recommendations. Include favorable or unusual developments.*

□□ If the overall scope of the project benefitted commodities other than specialty crops, indicate how project staff ensured that funds were used to solely enhance the competitiveness of specialty crops.

□□ Present the significant contributions and role of project partners in the project.

While the information provided is interesting it sounds more like what would be included in the *Project Summary*.

Please elaborate on the activities that took place over the three years of this project, as provided in the Work Plan and/or accepted project proposal. This includes significant results, accomplishments, conclusions and recommendations, as well as favorable or unusual developments.

Through this grant program, we hired, trained and utilized two Farm to Cafeteria Americorps VISTA members. The Director and the VISTAs developed a social media campaign to document and celebrate schools' purchases of local specialty crops and utilized this platform to spur additional purchasing.

The program staff attended 15 Wellness Committee meetings in 8 districts, reaching 236 attendees, and utilized time at these meetings to engage the committee members in the benefits of the purchase of locally grown specialty crops and discussed any Wellness Plan directives on local purchasing. The program delivered in-school agriculture and

nutrition classes featuring locally grown specialty crops in 13 school districts, reaching 6,508 students, well over the 5,000 projected in the grant proposal.

We created and distributed a monthly email newsletter to wellness committees, farmers, food service purchasers and others in the school community and worked with a variety of stakeholders to foster the farm to school network.

GOALS AND OUTCOMES ACHIEVED Last Modified: 3/14/13

□□ Describe the activities that were completed in order to achieve the performance goals and measurable outcomes identified in the approved project proposal or subsequent amendments.

□□ If outcome measures were long term, summarize the progress that has been made towards achievement.

□□ Provide a comparison of actual accomplishments with the goals established for the reporting period.

□□ Clearly convey completion of achieving outcomes by illustrating baseline data that has been gathered to date and showing the progress toward achieving set targets.

□□ Highlight the major successful outcomes of the project in quantifiable terms.

Objectives accomplished:

- Established a presence on school district wellness committees to increase demand for purchasing, promotion and nutrition education of RI Grown specialty crops
- Raised awareness of local specialty crops and their nutritional benefits through education programs in cafeterias, classrooms and in after school programs
- Built demand systematically by facilitating communication among purchasers, producers and processor/distributors
- Created a lasting practice of communities holding their food service providers accountable to the goal/commitment by tracking and reporting their purchases of local specialty crops

We attended 15 wellness meetings in 8 districts. Reaching 236 wellness meeting attendees. This indicates the success of achieving the first goal of being a presence on school wellness committees, to inspire and facilitate conversations schools sourcing and serving locally grown specialty crops.

We've had Farm to School Programming in **13 districts**, exceeding our goal of reaching at least 10 districts. We've reached **6,598 students** in these districts; our aim was to reach at

least 5,000. This indicates success in achieving the second goal of Raise awareness of local specialty crops and their nutritional benefits through education programs in cafeterias, classrooms and in after school programs.

Seven out of our **10** district goal had an increase of **120%** HOM products purchased this year in comparison to last year! So although we did not attain our goal of 10 districts (just by 3, we were close!) we did get 7 districts to spend way over the 10% mark we had set for ourselves! This information, self reported by food service management companies, show a clear increase in purchases in the locally grown specialty crops promoted by the Harvest of the Month program.

BENEFICIARIES

Provide a description of the groups and other operations that benefited from the completion of this project's accomplishments.

Clearly state the number of beneficiaries affected by the project's accomplishments and/or the potential economic impact of the project.

The beneficiaries of this project are specialty crop farmers of Rhode Island achieving great sales and school children that are being taught about agriculture, nutrition and environmental topics. We reached 6,598 students and 236 Wellness Meeting attendees.

LESSONS LEARNED

Offer insights into the lessons learned by the project staff as a result of completing this project. This section is meant to illustrate the positive and negative results and conclusions for the project.

Describe unexpected outcomes or results that were an effect of implementing this project.

If goals or outcome measures were not achieved, identify and share the lessons learned to help others expedite problem-solving.

Lessons learned should draw on positive experiences (i.e., good ideas that improve project efficiency or save money) and negative experiences (i.e., lessons learned about what did not go well and what needs to be changed).

1. Wellness Committees can be very effective means of communication about nutritious foods and purchasing of locally grown specialty crops. However, a one-size-fits-all approach is not possible, because districts differ in their abilities to support and engage these committees.
2. With careful scheduling and motivated staff, it is possible to reach many students with information on and samples of locally grown specialty crops. Consistent, age-appropriate, hands-on lessons create the best impact.
3. It is simpler to track the purchase of 1-2 specialty crops per month, rather than all specialty crops, and use these 1-2 crops as indicators of all purchases.

Challenges included:

1. We are not always on a district's Wellness Committee list, relying solely on partners to inform us of meetings
2. Some Wellness Committee meetings overlap & we do not have the staff to reach them all.
3. There was a lot of transition this year with the Food Service Directors, which led to holes in our data - new FSD were not able to report on their predecessors' purchases.

CONTACT PERSON

□□Name the Contact Person for the Project • Telephone Number

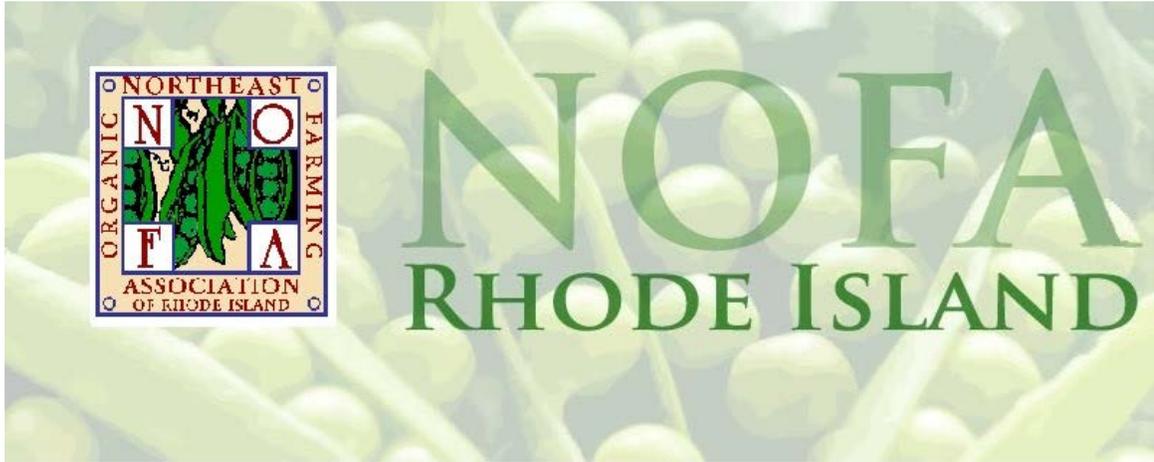
• Email Address

Sheri Griffin

(401) 312-4250

Sheri@farmfreshri.org

Final Performance Report



Technical Assistance to Implement Organic Techniques on Specialty Crops in Rhode Island



USDA Specialty Crop Block Grant Program
RI DEM, Division of Agriculture Contract 15-SCBGP-RI-0012
(NOFA/RI #016-022)

Original Submittal via electronic mail: June 30, 2018
Revised Submittal via electronic mail: January 23, 2019 by

Northeast Organic Farming Association of Rhode Island (NOFA /RI)

Final Performance Report

Project Title

Technical Assistance to Implement Organic Techniques on Specialty Crops in Rhode Island.

Project Summary: Background, Impact and Findings

Northeast Organic Farming Association of Rhode Island (NOFA/RI) has worked to enhance the competitiveness of organic specialty crops grown in our state by providing technical support and training opportunities to farmers. This project addresses the growing number of Rhode Island farmers who are interested in increasing the yields and value of their crops while reducing their reliance on chemical inputs, but lack the experience and knowledge to do so. By delivering on target and timely training and support, this project assisted farmers with the knowledge and skills needed to remain viable in an increasingly competitive industry.



NOFA/RI is uniquely positioned to provide training and support to Rhode Island farmers opting for organic methods for a number of reasons including our established expertise and name recognition. In addition, under the current standards, the Rhode Island Department of Environmental Management Division of Agriculture is restricted from advising applicants on organic production techniques. NOFA/RI can answer the requests for technical assistance from new and continuing applicants for organic certification, as well as addressing specific issues with organic methods and techniques.

Training environments ranged from on-farm workshops to classroom seminars and conferences, and farm advisor partnerships, which provided one to one mentoring. The program goals looked to improve organic production, efficiency, productivity and profitability over the long term. This project builds on and continues program elements and training of previous completed work.

NOFA /RI implemented four elements designed to provide technical support to farmers wanting to adopt organic methods or gain organic certification:

- Advanced Grower Training Seminars (AGTS)
- Organic Farming Educational Conferences
- On-Farm Workshops (OFW)
- Advisor Program

Surveys were used to evaluate the programs. Evaluation responses have been remarkable in their consistency for ranking NOFA/RI programs as very useful (ratings of 4 and 5 on a 1 to 5 scale), and on target for topics and providing information that will improve sustainability, and increase efficiency, may increase profitability, and improve conservation efforts on farms. In addition, the majority of farmers responded that they will use workshop techniques to begin, increase or improve commercial production of specialty crops.



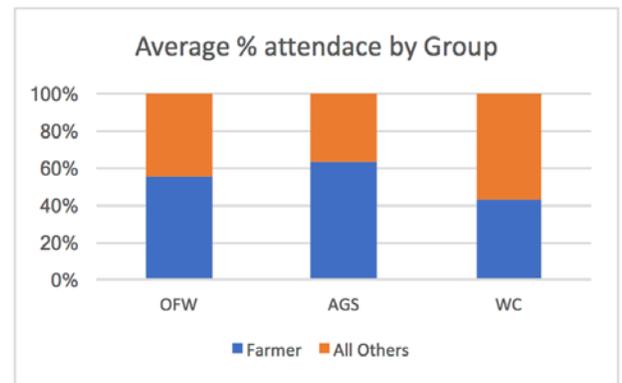
Some selected comments from the evaluations:

- *“Expanded my knowledge of no-till farm practices & soil fertility.”*
- *“This conference was wonderful. There was so many wonderful people here both with conversation and with interest and focus on these topics.”*
- *“Too many good presenters at the same time!”*
- *“I thought it was awesome. No improvements necessary.”*

Beneficiaries

Number of project beneficiaries:..... 486**

Beneficiaries met or exceeded the work plan targets for participants as shown in the table below. Of note, for On-Farm Workshops (OFW), approximately 55 percent of attendees were beginning or experienced farmers. At the more technical “classroom” style Advance Growers Seminar (AGS), we drew the largest percent of farmers (66%). The Annual Winter Conference attracted both farmers (about 40%) and home growers and consumers (60%) who are interested in supporting organically grown specialty crops. The fact that our programs include non-farmers demonstrates the success of our outreach into the community to educate on organic methods for growing specialty crops.



Above chart shows strong attendance by farmers for Specialty Crop topics at NOFA/ RI On farm Workshops (OFW), Advanced Growers Seminars (AGS) & Conferences (WC).

SUMMARY	OFW	AGS	WC	All
Average percent of farmers at each program event	55%	65.5%	43%	
Average number farmers per event	10	17	39	
Number of events	14	2	2	
Total farmers served	140*	34	78	252
Average # Participants (farmers + others) / event	18	27	91	
Work Plan Targets (No. of Participants)	10	15	10	
Total Served (farmers + community)	252	53	181	486

OFW= On-Farm Workshops; AGS= Advanced Growers Seminars; WC= Winter Conference.

* Extrapolated from no. of events and no. farmer/event to adjust for data from missing evaluations.

** Beneficiaries are derived from sign-in attendance sheets from each program. NOFA/RI acknowledges that a single person may participate in more than one program.

Activities Performed / Project Approach

OBJECTIVES

#	Objective	Completed?	
		Yes	No*
1	Provide training to specialty crop farmers to learn about and increase knowledge of organic methods and techniques.	X	
2	Improve farm practices to improve the sustainability, efficiency, profitability, and conservation of farms that produce specialty crops using organic methods.	X	
3	Improve food safety of farms that produce specialty crops using organic methods by increased understanding of the ecology of threats to food safety.	X	
4	To Increase knowledge about benefits of eating organic and how to access/produce specialty crops with organic methods and techniques for home grower and consumers.	X	

ACCOMPLISHMENTS

Accomplishment	Relative to objectives, Outcome and or Indicators
Conduct Advance Grower Seminars	4 AGTS completed, meeting the target of 15 participants averaged per seminar. (2 stand alone and 2 in conjunction with WC)
Hold Organic Farming Conference	2 Conference completed with nearly 90 participants each (work plan target is 10 participants).
Conduct On-Farm Workshops	14 completed with total of approximately 252 attendees. Target average of 10 participants per event met.

	<ul style="list-style-type: none"> ☞ Evaluations show OFW very useful to begin, increase or improve production of specialty crops.
Coordinate Farm Advisor Partnerships.	<ul style="list-style-type: none"> ☞ Facilitated 5 Partner relationships (target was 4) <ul style="list-style-type: none"> • Moonrose Farm, Cranston • Water Way Farms, Barrington • Barrington School Farms, Barrington • Greenvale vineyards, Portsmouth • Hocus Pocus Farm, Chepachet
Conduct multi-level Publicity / Social Media campaigns.	<ul style="list-style-type: none"> ☞ 876 Followers on Facebook ☞ 80 visits average per day on website ☞ 289 average views on monthly e news.

PROJECT PARTNERS

NOFA/RI has administered and executed this project. Project elements and tasks have been managed by the NOFA/RI Board of Directors with the support of contract support staff.

CHALLENGES

Challenge	Corrective Actions
Hiring and training contract staff assigned to coordinate program elements. Experience high turn-over rate.	Efforts made to adjust job responsibilities to offer more hours and better defined criteria for hiring. Also, better matching candidate with work (NOFA had hired farmers as coordinators for knowledge & connections in the community, but found they were over committed in the busy spring and summer time.)
Loss of volunteer NOFA/RI Board members.	Improve outreach for potential Board Members
Weather constraints for OFWs - Limits time frame of when we can schedule events and limits attendance during cold months and possible weather cancelations. .	Look to extend OFW season schedule with on-farm indoor farm locations (i.e. greenhouse, barn or high tunnel options).
To functionally administer and collect paper evaluations in an on farm open environment. Not easy to corral attendees to complete surveys.	NOFA/RI is reviewing on-line surveys as an option, although easier to administer the response rate for on-line survey is often low
The budget allocation in the work plan falls short of the level of effort needed to complete	Adjusted program element allocations to keep total budget on target. Plans to review data for

tasks, both for OFW and publicity and social media presence	future projects to better estimate project element funding.
Meeting OFW target of 16 events.	Reported range of problems in the Progress report and adjusted the total number of OFW to 14 to align with budget and schedule.

LESSONS LEARNED

NOFA/RI has shown itself to be a reliable leader in Rhode Island in providing specialty crop grower education, on-farm technical training for organic methods and techniques and community building through our programs. We found the on-farm workshops were an ideal place to promote the farm advisor program. The incentive of free registration at the on-farm workshops helped to attract a wider range of participants, including beginning and socially disadvantaged farmers, as well as home growers and consumers interested in learning more about local food sources. We continue to learn from our audience through evaluations and specific requests for topics and suggestions for future trainings.

CONTINUATION AND DESSEMINATION OF RESULTS (IF APPLICABLE)

This project has built on NOFA/RI's previous successful efforts: NOFA/RI Farm Advisor Program and technical training events. The effectiveness of these programs and activities demonstrate the benefits to providing support to RI specialty crop farmers interested in increasing the yields and value of their crops while reducing their reliance on chemical inputs. In addition, while more Rhode Island consumers than ever are buying organic food, and the organic market has grown, it still has large growth potential. NOFA/RI plans to continue to provide technical support to farmers and consumer education to support an organic Rhode Island.

NOFA/RI disseminates program results at several levels, including a presentation at the Annual Meeting in conjunction with the Winter Conference and in our Annual Report. We also use digital formats of Facebook, E newsletters and our web site to highlight programs and results. Last, NOFA/RI connects to the community with direct face to face interactions and shares the highlights and benefits of our programs while tabling at agricultural events and venues.

Outcome(s) and Indicator(s)/Sub-Indicator(s) Outcome Measure(s)

Select the Outcome Measures) that were approved for your project.

- Outcome 1:** Enhance the competitiveness of specialty crops through increased sales
- Outcome 2:** Enhance the competitiveness of specialty crops through increased consumption
- Outcome 3:** Enhance the competitiveness of specialty crops through increased access
- Outcome 4:** Enhance the competitiveness of specialty crops through greater capacity of sustainable practices of specialty crop production resulting in

increased yield, reduced inputs, increased efficiency, increased economic return, and/or conservation of resources

- Outcome 5:** Enhance the competitiveness of specialty crops through more sustainable, diverse, and resilient specialty crop systems
- Outcome 6:** Enhance the competitiveness of specialty crops through increasing the number of viable technologies to improve food safety
- Outcome 7:** Enhance the competitiveness of specialty crops through increased understanding of the ecology of threats to food safety from microbial and chemical sources
- Outcome 8:** Enhance the competitiveness of specialty crops through enhancing or improving the economy as a result of specialty crop development

Outcome Indicator(s)

Of 4 Advisor partnerships, all growers indicated they have gained knowledge to help adopt organic practices resulting in increased yields, reduced inputs, increased efficiency and or conservation of resources. Note 1 grower did not complete the evaluation.

Of farmers reached through training from 2017 WC, 2018 WC, 2017 AGS, and 5 of the OFW (where data was available to separate and tally farmer responses –OFW #7,8,10,13 & 14):

- 67 of 102 responded they will Improve the sustainability of their farms
- 75 of 102 responded they will Increase farm efficiency:
- 60 of 102 responded profitability of my farm may increase
- 47 of 102 responded conservation efforts on my farm /land may improve
- 33 of 102 responded food safety on my farm may improve
- 48 of 102 will use workshop techniques to BEGIN commercial production of specialty crops.
- 76 of 102 will use workshop techniques to INCREASE or IMPROVE production of specialty crops

Regarding the relevance and usefulness of the programs during the grant period, 96 % of all respondents rated our programs as 4 or above with 5 being very useful.

Last, an indirect indicator showing the effectiveness and continued need for projects like this is the increased number of specialty crop farms in RI that are certified organic or listed as “chemical free”, “some organic”, or “IPM” (integrated pest management). This indicator was tracked based on a review of the Farm Fresh RI website which documents such data for RI farms. The table below shows a continued increase (+19%) in the total number of farms using chemical free, some organic or IPM methods.

Table 1: RI Specialty Crop Farms Certified Organic /Free or Partial Chemical / IPM

Year	2010	2011	2013	2015	2017
Chemical Free	18	50	69	74	91
Certified Organic	Data not available	25	20	22	22
Some Organic	Data not available	8	8	9	8
IPM	6	14	18	20	24

Data Collection

Evaluations were used for all program elements to assess various parameters of effectiveness of the programs. Evaluations occur at the time of the program. Sign in sheets were used to report the number of people attending each event (note, individuals may have attended multiple program events).

Contact Person

Contact Person for the Project Jan Martin
 Telephone Number 401 569-8341
 Email Address nofari@live.com

Federal Project Expenditures to Date

Expenditures

Cost Category	Amount Approved in Budget	Actual Federal Expenditures (Federal Funds ONLY)
Personnel		
Fringe Benefits		
Travel		696.30
Equipment		
Supplies		316.61
Contractual		16987.09
Other		
Direct Costs Sub-Total		
Indirect Costs	2000.00	2000.00
Total Federal Costs		20000.00

Program Income

Source/Nature (i.e., registration fees)	Amount Approved in Budget	Actual Amount Earned
Registration Fees	Not specified	6032.36
Total Program Income Earned	Not specified	6032.36

Income generated from registration fees have been reinvested to sustain and expand the reach of the project and offset the scholarships provided to socially disadvantaged, minority and veteran farmers and to further Specialty Crop programs after the grant period ends.

Additional Information

March 5, 2017 Conference – Presentations to support and enhance competitiveness of Rhode Island specialty crops.

Low Till Gardening Techniques for Carbon Restoration	Jack Kittredge & Julie Rawson of Many Hands Organic Farm, MA; John Kenny of Big Train Farm, RI & Others
Beekeeping in Sustainable Farming	Liying Peng, Beekeeper, P&L Bayside Apiary
Make it Personal: Marketing Your Farm Business Without Gimmicks	David Hambleton, Sister's Hill Farm, NY
Basic Accounting For Farmers	Julia Shanks, Julia Shanks Consulting, MA
Planning & Growing For a Winter CSA	Ashley Loehr, Sparrowbush Farm, NY
Investment Decisions & Enterprise Budgeting	Julia Shanks Consulting
USDA Organic Certification by RI DEM	Matt Green Environmental Scientist, RI DEM

March 4, 2018 Conference – Presentations to support and enhance competitiveness of specialty crops.

Practical No-Till Carbon Farming	Jack Kittredge & Julie Rawson of Many Hands Organic Farm, MA; John Kenny of Big Train Farm, RI & Others
Nurturing the Soil That Nourishes the Community.	Jennifer & Pete Salinetti, Woven Roots Farm, MA
No-Till Methods and Systems	Jennifer & Pete Salinetti, Woven Roots Farm, MA (Advanced Grower)
Spring Mushroom Season in RI	Ryan Bouchard & Emily Schmidt, RI Mushroom Hunting Foundation
Growing Organic Onions & Garlic	Chuck Currie, Freedom Food Farm, MA
Growing Medicinal Herbs	Mary Blue, Farmacy Herbs
Garden Like a Farmer	Dan Bensenoff, NOFA/Mas

Advanced Grower Seminars – 2 of 2 Stand-alone

Dec 4, 2016	Organic No-till & Intensive Veg. Production.	Bryan O'Hare	South Kingston
Dec 3, 2017	Growing for Food and Community	Roger Swain	Warren

On-Farm Workshops to support and enhance the competitiveness of RI specialty crops:

1	May 8, 2016	Irrigation and Water Systems	Wishing Stone Farm, Little Compton
2	June 16, 2016	Little State Flowers Means Business in the Ocean State	Little State Flower, West Kingston
3	June 29, 2016	Building Soli Fertility	Scratch Farm, Cranston
4	July 31, 2016	Tractor Safety Workshop	Breene Hollow Farm, West Greenwich
5	Oct 16, 2016	Growing and Harvesting Medicinal Roots	Pharmacy Herb Farm
6	Dec 11 2016	Apple Orchard Planting & Care.	Long Lane Orchard. Warren.
7	Apr 22 2017	Season Extension with Caterpillar Tunnels	Little River Farm, Exeter
8	Apr 29 2017	Propagation & Starting Season in Greenhouse	Casey Farm, N. Kingstown
9	May 17 2017	Soil Fertility with Cover Crops & Plant Diversity.	SODCO, Exeter
10	Jun 07 2017	High Tunnel Tomato Production	Brandon Family Farm, W. Kingstown
11	Jun 19 2017	Evolving Greens Wash Station	Wishing Stone Farm, Tiverton
12	Jul 20 2017	Compost, Soil Fertility & Garlic Harvest /Curing	Earth Care Farm, Charlestown
13	Aug 03 2017	Herbs for Value Added Products	Farmacy Herbs Farm, Cranston
14	Dec. 10, 2017	Winter Growing in Unheated High and Low Tunnels	Roots Farm, Tiverton

Advisor Program

1. Moonrose Farm, Cranston RI. - Farm planning and soil management.
Contact: Jordan Goldsmith,
2. Barrington School Farm, Barrington RI - cover crops and pest and weed control. Contact:
Candace Clavin
3. Water Way Farms, Barrington RI, - cover crops and pest and weed control. Contact:
Candace Clavin
4. Greenvale Vineyards, Portsmouth, RI. Cover crops, honey and cut flower growing.
Contact: Billy Wilson.
5. Hocus Pocus farm, Chepachet, RI. Contact: Sophie Soloway.



NOFA/RI Organic Farm Advisors



Camille Abdel-Nabi, Little River Farm, Exeter
 Camille is owner / manager on a 3 acre certified organic vegetable farm where she and co-owner Bob Payne use organic and sustainable practices to grow a variety of greens herbs and vegetables and sell through a 40-member CSA, farmers markets and wholesale to food cooperatives and restaurants. Within their first year of business, they met their financial goals.

Camille trained in organic production, marketing and sales as an apprentice at Greenview Farm. Camille can advise on whole farming planning, cover crops, [post harvest handling](#) and seedling production.



Christina Dedora, Blue Skys Farm, Cranston
 Christina has experience growing and selling vegetables, herbs, and ornamental crops.
 Favorite crops: vegetables, cut flowers and herbs

Special skills: seedling production and field growing of cut flowers and herbs; marketing at Farmer's Markets.



Al Fuoroli, [Elwood Orchard](#), N. Scituate.
 Elwood Orchard is RI's only organically certified orchard. Currently Al grows nectarines, [asian pears](#), apples, gourmet garlic, pumpkins, winter squash, flowers for cutting and more. He also tends honey bees and sells honey. As of 2012 most of the orchard is certified organic including our apples, garlic, shallots, tomatoes and winter squash.



Kate Goodson. Kate has worked and volunteered with the [World Wide Organization of Organic Farmers](#) in the Northeast U.S., Tennessee, Virginia, France and Kenya, and has become knowledgeable in areas such as: microgreen development, the use of high tunnels and low tunnels, soil health, the use of cover crops and pest and disease management. Kate also has experience with a range of tractors, whether it be for seeding, rototilling, mowing or spreading lime.



John Kenny, [Big Train Farm](#), North Scituate
 John has been owner and manager of Big Train Farm since 2009 and the farm has been certified organic for several years now. John has over 15 years of experience as an organic farmer as well as an academic background in biology and chemistry. When not farming, or advising for NOFA/RI, John periodically teaches a Soil, Plant, and Farm Methodology course. John has experience working with antique and modern tractors. He teaches tractor operations to farmers.
 Special Skills: soil test interpretation and field planning



Diana Kushner, Arcadian Fields, Hopkinton
 Diana's farm is meticulously tended. She helps farmers navigate the organic certification process.
 Favorite crops: heirloom tomatoes, basil, teenage lettuce, carrots
 Special skills: weed control, cover crops and organic certification.



Steve Ramos, [Steve's Organic Produce](#), Bristol
 Steve is one of RI's first organic farmers. He earns his living on a small farm under 2 acres.
 Favorite crops: specialty vegetables, herbs and small fruits
 Special skills: intensive growing, season extension, restaurant marketing.



Jason Valcourt. Jason has managed crop production for several farms and specializes in crop planning and pest and disease control. He focuses on efficiency and optimizing resources.

Publicity / Social Media Platforms

NOFA/RI uses multi-platform venues to promote grant programs including NOFA/RI webpage blog and Events page, Facebook, twitter, E news newsletter, Event Brite (used for OFWs free registration) as well as traditional formats.

Mail Chimp is used for press releases to a list of 145 entities, and during the reporting period at least 21 separate NOFA/RI E news campaigns were published with an open rate of 23%-43%, consistently above the industry average of 21%. In addition, during the period our audience increased by 126.



NOFA/RI web site was visited on average 80 visits per day and NOFA/RI maintained separate pages for Events, Advisor Program, AGTS and the Winter Conference as well as a blog news to highlight the grant program activities. In addition, traditional print media such as flyers and post cards were produced. A sample of print material produced in the reporting period is attached.

**Sunday
March 4, 2018**

Northeast Organic Farming Association
Of Rhode Island Presents
5th Annual Winter Conference
Hope & Main, Warren, RI
Sponsored by USDA

**Northeast Organic Farming Association of RI
Winter
Conference**
Organic Farmers & Gardeners

March 5, 2017

**Hope & Main Building
691 Main Street, Warren, RI
8:30 -4:30 PM**

Sponsored in part by the RI Department of Environmental Management's Division of Agriculture via a USDA Grant and our conference host, HOPE & MAIN

**Sunday
December 3, 2017** **SAVE THE DATE**

Northeast Organic Farming Association
Of Rhode Island Presents
Roger Swain & Lee Reich
A Seminar For Growers

Roger Swain, who holds a doctorate from Fairleigh University and is easily recognized by his trademark long gray beard and red suspenders is known to millions from his many years of hosting the popular PBS show *The Victory Garden*. He is also author of the books *100 Simple Potatoes*, *100 of Dairy*, *The Vegetable Grower's Handbook*, *100 of Beans*, and *100 of Tomatoes*.

Lee Reich, PhD is an *as of* Horticulture professor at Cornell University and horticulturist with 20 years of experience in plant and soil science. He spent years working in plant and soil science with the USDA and Cornell University. He is the author of *100 of Beans*, *100 of Dairy*, *The Vegetable Grower's Handbook*, *100 of Tomatoes*, *100 of Beans*, and *100 of Potatoes*.

Watch for details to REGISTER at nofari.org
A Seminar For Growers December 3, 2017 Hope & Main, Warren RI
Funded by a USDA Specialty Crop Grant

Spring NOFA RI Events
Find us at www.nofari.org
These on-farm workshops made possible thanks to USDA specialty crop grants through the RI Department of Environmental Management's Division of Agriculture. Workshops are free and open to the public.

Saturday, April 22, 9:30 - Noon
On-Farm Workshop: Season Extension with Caterpillar Tunnels. Potluck Lunch to follow
Location: Little River Farm, 125 William Reynolds Rd., Exeter, RI 02822

Saturday, April 29, 1-3pm
On-Farm Workshop: Propagation and Starting the Season in a Heated Greenhouse
Location: Casey Farm 2325 Boston Neck Road, North Kingstown, RI 02822

Wednesday, May 17, 5:30 - 7 PM
On-Farm Workshop: Growing Sustainable Sod: Soil Fertility through Cover Cropping and Plant Diversity.
Location: SODCO 264 Exeter Rd. Slocum, RI
Potluck barbecue to follow.

Wednesday, June 7, 5:30 - 7 PM
On-Farm Workshop: High Tunnel Tomato Production
Location: Brandon Family Farm, 592 Fairgrounds Rd, West Kingstown, RI

Tuesday, June 19th at 5pm
On-Farm Workshop: Evolving Greens Wash Station
Location: Wishing Stone Farm, 25 Shaw Rd, Little Compton, RI 02837

Thursday, July 20th, 5:30pm
On-Farm Workshop: Farm Compost Tour: Soil Fertility and Garlic Harvesting/Curing
Location: Earth Care Farm 89 A Country Drive Charlestown, RI 02813

NOFARI @ www.nofari.org • nofari@live.com

**UPcoming
EVENTS**

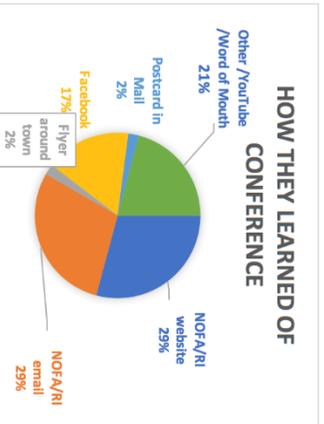
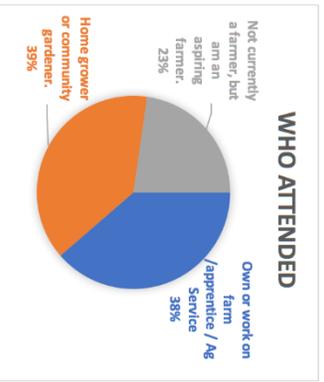
Sept. 21, 2017
Organic Pesticide Training
Goddard State Park, East Greenwich, RI

Dec. 3, 2017
Advanced Grower Seminar
Hope & Main Warren, RI

March 4, 2018
Winter Conference
Hope & Main, Warren, RI

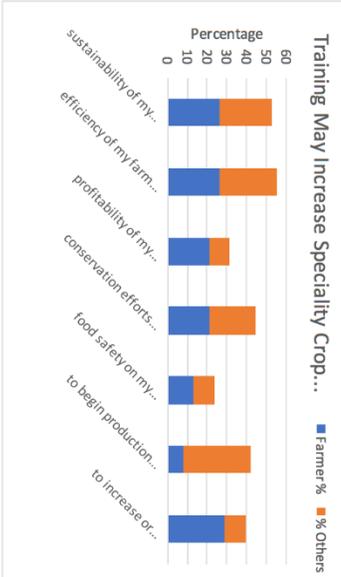
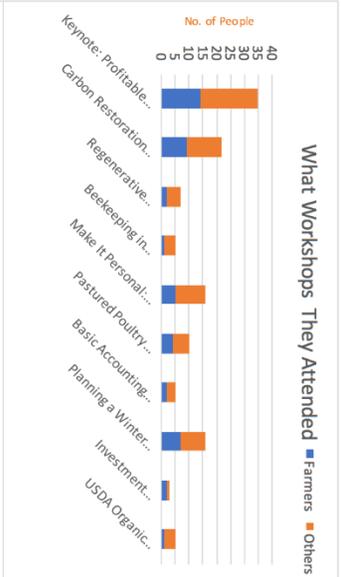
Farmers | Gardeners | Consumers

Visit Us at nofari.org to learn more.



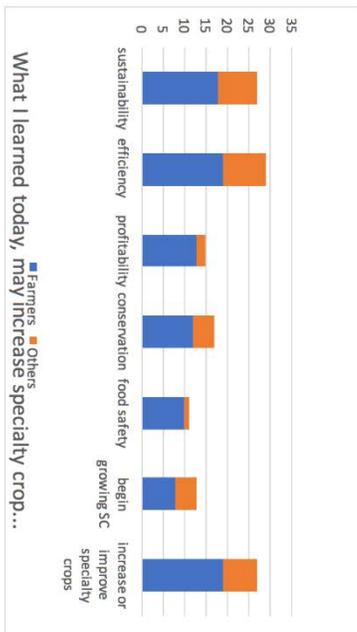
• 38 total evaluations, some respondents identified more than 1 category. We classified 15 evaluations as farmers; those who owned, worked on a farm, apprenticed, or was a Ag Service provider.

We summarized farmers separately to see if there were any noted differences between groups and to determine if we are achieving our targeted goals



Legend
 Sustainability of my farm
 Efficiency of my farm
 Profitability of my farm
 Food Safety on my farm
 To begin production of
 Specialty Crops
 To increase production of
 Specialty crops.

Participant Evaluations On-Farm Workshop/ Seminar /WC	Advance Grower		Winter Conference	
	1	2	Mar-17	Mar-18
Date	12/4/16	12/3/17	Mar-17	Mar-18
Total Participants	30	23	88	93
Total Evaluations	17	17	38	40
Total Farmer Participants	11	11	17	24
Beg Farmer < 10 yrs	9	7		19
Ep. Farmer >10	2	4		5
women /minorit farmer				
Improve the sustainability of their farms	14	13	20	27
Increase farm efficiency: marketable yields of crops (quality & quantity)	12	16	21	19
Profiability of my farm may increase		8	12	15
Conservation efforts on my farm /land may improve		11	17	17
Food safety on my farm may improve		7	9	11
Ranked workshop a 4 - Useful	9	3	12	14
Ranked workshop a 5 - Very Useful	7	13	25	24
Ranked workshop <4	1	1	1	1
BEGIN commercial production of specialty crops.	2	12	16	13
Farmer will use workshop techniques to INCREASE or IMPROVE production of specialty crops	12	13	15	27
Percentage of Farmers	57	74	43	43
Total Farmer = Beg. Farmer + Exp farmer + Farm Apprentice				



Participant Evaluations
On-Farm Workshop/ Seminar /WC

RI DEM Grant #016-022 (4/1/2016 -3/31/2018) 14 total

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	2016						2017							
Date	8-May	13-Jun	29-Jun	31-Jul	16-Oct	11-Dec	22-Apr	29-Apr	17-May	7-Jun	19-Jun	20-Jul	3-Aug	3-Dec
	Irrigation	Little Flower	Soil @ Scrath	Tracto 4 Women	Med. Roots	Apple orchard	Catpillar tunnels	Propagati-on	Sod	high tunnels	food safey	Earth care	Farm. Herbs	Winter Grow in tunnels
Total Participants	21					2	8+	5	70+	17			33	37
Total Evaluations	17	16				2	6	2	1	13			27	30
Total Farmer Participants	9	12				1	6			11			13	18
Beg Farmer < 10 yrs	4	9					2	2		7			11	14
Ep. Farmer >10	5	3					4		1	4			2	4
women /minorit farmer										2			5	5
Improve the sustainability of their farms	3						5	1	1	12			17	25
Increase farm efficiency: marketable yields of crops (quality & quantity)	9	8				1	5	2	1	13			17	28
Profiability of my farm may increase		12					4	2		12			15	21
Conservation efforts on my farm /land may improve							4			8			14	17
Food safety on my farm may improve							2	1		7			14	9
Ranked workshop a 4 - Useful	5	4					1			3			2	4
Ranked workshop a 5 - Very Useful	10	9				2	5	2		9			25	26
Ranked workshop <4	2	2								1			0	0
Farmer will use workshop techniques to BEGIN commercial production of specialty crops.	NA	3				2	6	2	1	10			20	20
Farmer will use workshop techniques to INCREASE or IMPROVE production of specialty crops	NA	9					6	2		13			20	24
Percentage of Farmers	40	50				50	75	40	na	85			40	60

Total Farmer = Beg. Farmer + Exp farmer + Farm Apprentice

Shaded area indicated the completed evaluaitons were lost.

Project Title

RI. DEM GET FRESH BUY LOCAL Campaign Final Report

Project Summary

This program was built on the previous projects and enhanced our commitment to increase demand and consumption of RI Grown Specialty Crops. Our motivation is to enhance the marketing of Fruits and Vegetables in the State for over 200 farmers. This is needed to help slow down the loss of Agricultural Land to development by making farming of Specialty Crops viable in Rhode Island.

The Rhode Island Division of Agriculture working with specialty crop growers throughout the state expanded on its "Rhode Island Get Fresh Buy Local" buy local initiative by conducting produce preparation demonstrations featuring local celebrity chefs at all RI farmers market and participating roadside stands. The Division also updates its RI Agricultural Display on an annual basis. The Division also uses SCGF to enhance its marketing program by making point of purchase advertising material available to farmers. The need for this project is to help keep Specialty Crop Farming Viable in Rhode Island. Since Rhode Island has such a short growing season it was critical for us to get Specialty Crop Farmers (Fruit and Vegetable Growers) the logo material.

Project Approach

Through our efforts of purchasing new graphics for our display and doing shows throughout the State we increased demand for RI Grown Specialty Products (fruit and vegetables). We also promote events such as Ag Day at the State House to promote the consumption of Specialty Crops.

Our partnership with Rhode Island Specialty Crop Growers has served over 400,000 Rhode Island residents by bringing the locally grown fruits and vegetables. Working with over 60 farmers markets we have increased outlets for the sale of locally grown Specialty Crops. Fruit, Vegetables, Nursery Stock and Honey are now in demand more than ever.

We also held cooking demonstrations in partnership with the Department of Health at 8 farmers markets throughout the State. Customers were taught how to prepare fruit and vegetables that were being sold at the farmers market. Over 800 people saw these demonstrations.

We also hired two summer interns to work at the farmers markets to help Specialty Crop Farmers sell there products. The interns job was to help specialty crop farmers display their products. The interns job was to give out information about specialty crops and answer any customers questions. Also the intern would interview specialty crop farmers to see if our efforts increased their sales. In interviewing farmers we have seen a 2% increase in sales of Specialty Crops over last year. We interviewed 50 Specialty Crop farmers at farmers markets

and asked if they have seen any increase in sales due to our marketing efforts. Due to the added demand we now have 7 winter farmers markets. To ensure Specialty Crop Funds were only used for Specialty Crops the DEM/Division of Agriculture contributed over \$50,000 dollars of State funds to cover non Specialty Crops that have benefited from this program. Over 80% of the Agricultural Crops sold in RI are Specialty Crops.

The State of RI is committed to keeping farming viable in RI. The funding we receive from USDA is critical in moving forward with the expansion of RI Grown Specialty Crops. Well over three hundred thousand dollars of State funds is committed to the expansion of Specialty Crop farming in Rhode Island on an annual basis.

Goals and Outcomes Achieved

By expanding our marketing efforts by purchasing of display material and doing shows throughout the State we have increase demand for RI Grown Products. Also by expanding our farmers' market program and introducing wireless EBT technology into additional markets we have increased sales for Rhode Island Farmers. These sales were documented by bank statements showing sales of fruit and vegetables that were processed through the EBT machines. There was sales of \$14,000 processed on the EBT machine for Specialty Crops. We also measured the increase sales of RI Grown Specialty Crops by speaking and surveying farmers to see if their sales have increased. We know as in the past informing the public about RI Grown Specialty Crops increases demand for such products.

EBT Program is supplemented by 20% of State funds to compensate for the sales of non Specialty Crop items. It has been determined that 20% of products being sold at our farmers markets are not Specialty Crops.

The goals we achieved for the season are:

- Set up and operate EBT systems at 26 farmers markets. The EBT systems are critical to the increase of sales of Specialty Crops at farmers markets.
- Re-Certified 42 farms for GAP compliance for sales to school districts
 - Had cooking demonstrations at farmers markets throughout the season at 8 farmers markets over 6000 people learned how to prepare fresh fruits and vegetables. This was a partnership we have with Johnson and Wales University that is very popular.
- Gave out information to 50,000 citizens promoting RIGrown at shows
 - Point of purchase material is critical to educate the public as to what products are RI Grown Specialty Crops. These point of purchase materials also let the farmer help customers identify which are Rhode Island Grown

Specialty Crops. We will measure the outcomes of our actions through the surveying of farmers to see if our efforts have increased demand for their products.

-Of the 50 Specialty Crop Farmers Surveyed. All responded that our efforts have helped them in some way to stay viable as a Specialty Crop Grower in RI. They all have seen an increase in sales.

- We held Agriculture Day at the Rhode Island State house May of 2018 and over 40 Specialty Crop Farmers were able to give out information about the crops they grow and where establishments are located. Over 2,400 people attended the event. There was also a proclamation from the Governor for Agriculture Day in Rhode Island. Two local media outlets were contacted and covered the event. Also during the season four media stories ran about corn in season and Christmas Trees in November 2017.

-Sales for Specialty Crops in RI have been increased as documented by the New England Agricultural Statistics Census taken for RI. www.nass.usda.gov by_State/New_England_includes/Publications/Annual_Statistical_Bulletin/CashRec2013.pdf Using previous years as benchmarks it is clearly seen the increase in sales of Specialty Crops on an annual basis.

This project is an extension of previous years and is different because of the new farmers we have signed up with and new citizens we have educated about specialty crops grown in RI. Our goal is always the same expand the consumption of Specialty Crops in RI

.

Beneficiaries

The beneficiaries of the project are all the citizens of Rhode Island and Specialty Crop Farmers. Our efforts have increased the availability of fresh fruits and vegetables for the citizens of Rhode Island. Over 80 Specialty Crop Farmers have benefited from this grant.

Lessons Learned

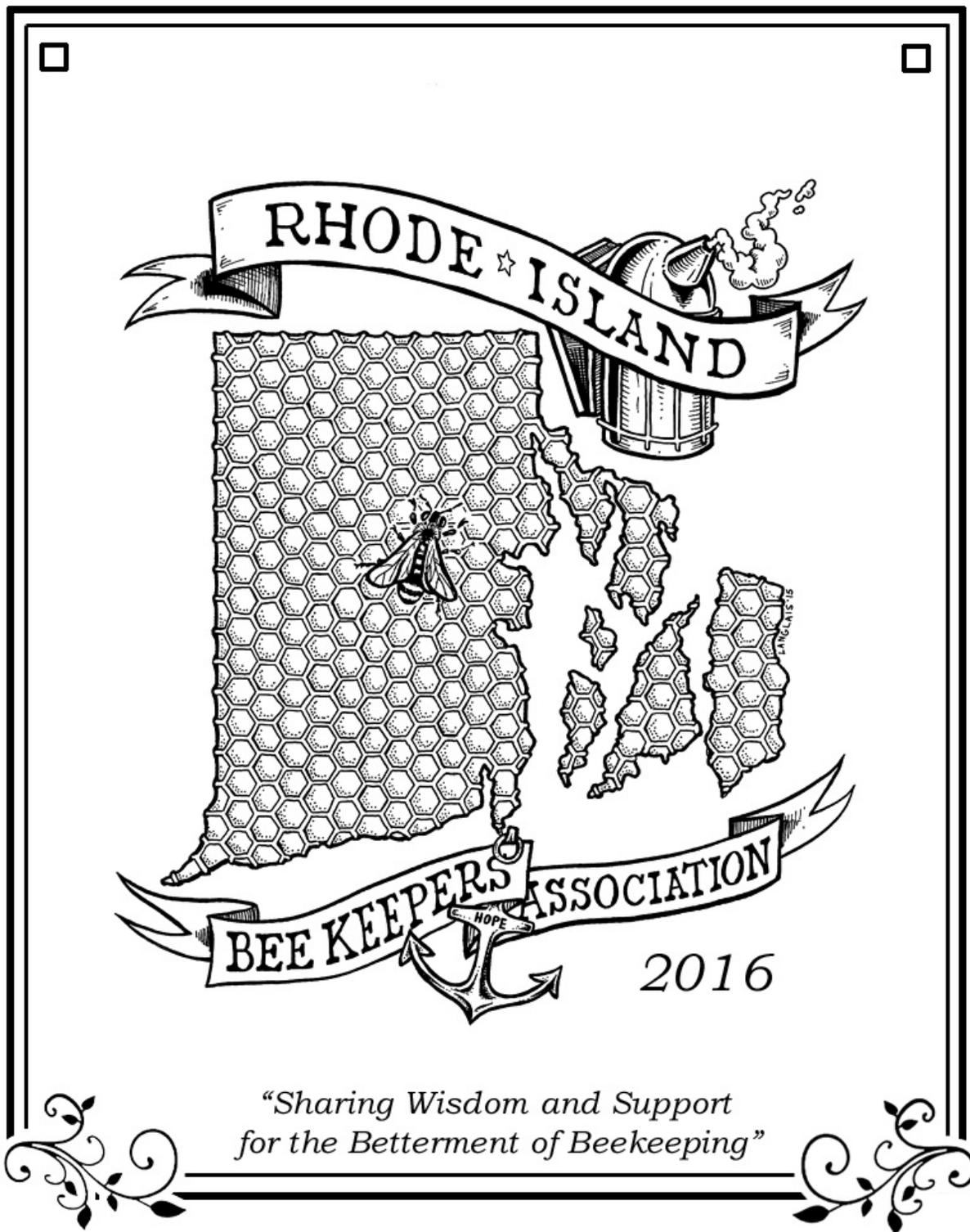
We have learned that marketing of Fruits and Vegetables and other Specialty Crops is critical to increasing sales and keeping farming viable in Rhode Island.

Contact Person

Peter Susi

peter.susi@dem.ri.gov

401-222-2781 ext. 4517



*"Sharing Wisdom and Support
for the Betterment of Beekeeping"*

**Final Report
Rhode Island Beekeepers Association (RIBA)**

Honeybee Colony Improvement Program

Specialty Crop Farms

PROJECT SUMMARY

The purpose of this grant is to assist Rhode Island beekeepers in invigorating and increasing their colonies by (a) introducing genetically superior queens by providing to each registered Rhode Island beekeeper queens for the re-queening of existing colonies and (b) support the RIBA's ongoing initiative to develop its own breeding program to raise and make available genetically superior queens to all Rhode Island beekeepers. More specifically, the grant was designed to increase the viability of managed bee colonies in Rhode Island by introducing genetically superior queens into the existing population of managed colonies and to provide packaged bees to the newly established queen yard initiative of the Rhode Island Beekeepers Association. The project is important and timely in light of the increasing importance of honeybee colonies as pollinators for Rhode Island farm crops, and in light of the accelerating challenges faced by the Rhode Island honeybee population from parasites and disease. Rapid advances of breeding and genetic engineering of disease and parasite resistant strains of honeybees have increased the probability of winter survival among test colonies outside of Rhode Island, however it was believed that most Rhode Island beekeepers were unfamiliar with these efforts, and were not trained in replacing their colony queens with queens of higher genetic quality. It should be noted that upon introduction of a genetically advanced queen to a colony, the queen nearly immediately begins to produce drones (male bees) which infiltrate the general honeybee population and mate with queens from other colonies, thus increasing the average quality of genetic material in the general population regardless of the lifespan of the introduced

queen. This project was not built on a previously funded project with the SCBGP or SCBGP-FB.

PROJECT APPROACH

This Section briefly summarizes activities performed, targets, and/or performance goals achieved during the entire grant period vis a vis the Work Plan of the approved project proposal. The work is described in both quantitative and qualitative terms, and prior reporting period reports are incorporated by reference. **Significant activities undertaken in prior reporting periods are also reported in this Final Report, especially where those activities were curtailed or abandoned during the most recent reporting period, so as to assure a complete Final Report.** This Section includes the significant results, accomplishments, conclusions and recommendations. The project did not benefit commodities other than specialty crops. Significant contributions and roles of project partners in the project are summarized.

Activities Performed

For a complete description of activities performed during prior reporting periods, reference is made to reports for the periods ending September 30, 2016 and September 30, 2017. Detailed descriptions of activities undertaken in those reporting periods will not be repeated here, **however, where relevant, activities and tasks performed during the entire grant period will be described. .**

1. Recruit Beekeepers to Program

By September 30, 2016, recruitment of beekeepers to the grant program was well underway. The Rhode Island Beekeepers Association (RIBA) met once per month during the first year of the grant; most of the grant related activity at meetings consisted of identifying volunteer beekeepers willing to participate in the grant. By that time, four “fact finding”

meetings had been held to explain the grant and the nature of participation in the project. Three monthly meetings had addressed generally the process of introducing a grant queen to an existing colony, including Mr. Warchol's presentation as described below. A database and map was created and maintained of volunteers with contact information so as to facilitate the distribution of queens upon their arrival in Rhode Island.

During the following reporting year, ending October 2017, The Rhode Island Beekeepers Association (RIBA) met once per month during the reporting period; most of the grant related activity at meetings consisted of evaluating ongoing grant activities with respect to queen distribution and queen yard management. Rhode Island beekeepers present at the meeting were encouraged to participate in Grant activities. Volunteer teams were recruited and trained with respect to the evaluation of honeybee colonies in anticipation of hive inspections during the reporting period. In addition, substantial time was devoted to training beekeepers in the introduction of replacement queens into existing colonies at each of the monthly meetings because it was believed that success in achieving the grant goals would be dependent to a significant degree upon the ability of participating beekeepers to successfully introduce grant queens into existing colonies.

By the final year of the program, little effort was necessary to interest beekeepers in the program. 175 queens had been distributed during 2016 and 300 during 2017, pursuant to the protocols described in the previous reports. Nevertheless, regular announcements were made at the RIBA monthly meetings concerning the availability of Grant Queens for distribution. The Rhode Island Beekeepers Association (RIBA) met once per month during the entire grant period; most of the grant related activity at meetings consisted of evaluating ongoing grant activities with respect to queen distribution and queen yard management. Volunteer teams were recruited and trained with respect to the evaluation of honeybee colonies in anticipation of hive inspections during the grant period. In addition, substantial time was devoted to training beekeepers in the introduction of

replacement queens into existing colonies at each of the monthly meetings because it was believed that success in achieving the grant goals would be dependent to a significant degree upon the ability of participating beekeepers to successfully introduce grant queens into existing colonies. By the final year of the grant, it had become clear that successful introduction of grant queens was a process that would benefit from beekeeper education and adoption of a uniform protocol for queen introduction.

During the **entire** grant period, over approximately 775 Grant Queens were distributed to Rhode Island beekeepers either for purposes of queen replacement in existing hives or for purposes of re-queening or reestablishing queen yard and drone yard colonies. The number of beekeepers participating in the Grant was not determined, because some beekeepers were given more than one queen, either to supply more than one hive, or to replace a Grant Queen that had been introduced into a honeybee colony but that had not survived.

Activities concerning queen and drone yards were limited to the **second reporting period**. Data concerning queen yards and colonies in proximity to queen yards (“Drone Yards”) was not segregated from the general participation data. It should be noted that all colonies in one queen yard were replaced during the **second year of the grant** due to loss of colonies at that yard. It should also be noted that no other queen yard survived the winter of 2016-2017, and that these queen yards were not replaced. Due to factors not related to the Grant, the RIBA is no longer maintaining a yard specifically for the breeding of queens. **Accordingly, over the course of the two year grant, all queen yards were discontinued.**

2. Order/Purchase and Distribute Queens

During the **Entire** Grant Period 775 genetically superior queens were purchased using grant funds and distributed to Rhode Island beekeepers. Seven Hundred Seventy Five honeybee colonies were either established, or re-queened, with Grant Queens (subject to the caveat that some hives may have been re-queened more than once with Grant Queens where the first Grant Queen was not accepted by the colony). Due to limitations in data retrieval capability arising from the general characteristics of honeybee colonies and the limitations imposed by relying on volunteer data retrieval, long term survival rates are expressed herein as estimates. The estimated survival rate of genetically superior queens over the winter of **2016-2017** was 8.5% as determined by follow up interviews with queen recipients. The estimated survival rate of genetically superior queens over the winter of 2017-2018 is estimated at between 18% and 20%, demonstrating an upward trend.

3. Educate Beekeepers on Re-Queening Best Practices.

At a meeting on May 15, 2016, the Grant Consultant described in the Grant Proposal, Ken Warchol, provided a seminar on how to re-queen a hive – the activity was videoed and posted on the RIBA website for review and reinforcement. **Mr. Warchol continued his educational efforts during balance of the grant period.** Time was devoted at every monthly meeting of the Association to educating attendees on best management practices both during the queen introduction phase and during the ensuing management phase as to each colony. New beekeepers were permitted a one hour special program at the beginning of each monthly meeting **during the spring, summer and fall beginning in 2016**, so as to assure questions were answered and new skills improved. Mr Warchol and other experienced beekeepers continued to teach the technique involving existing queen location and removal of existing queen, inspection for supercedure cells, and timely introduction of a caged grant queen. This technique was modeled in field training by Ken Warchol, which was open to all grant participants. Mr. Warchol's seminar was posted on the

RIBA website and publicized to the members to assure maximum educational impact. Queen introduction and honeybee colony management was discussed at every monthly meeting of the Beekeepers Association, so as to assure better management practices by all participants. Average attendance at Association meetings is 80 – 120. During **the second year of the grant**, in an effort to avoid the difficulties associated with the introduction of a replacement queen into a queenright hive (one of the more difficult exercises in the queen introduction repertoire), alternative methods of queen replacement were explored. A Queen Introduction Protocol (“QIP”) was developed in cooperation with the grant advisor. The QIP was made a condition of grant participation during the spring of 2018. The QIP is believed to maximize the probability that a new Grant Queen will be accepted by a small, queenless, nucleus colony created by the beekeeper, which can then be grown to a full colony in time to maximize the potential for winter survival.

4. Data Collection Protocols

The grant contract provided that survival rates of Grant Queens would be monitored. **Professional consultant Ken Warchol developed field data sheets and alcohol wash protocols for Varroa mite counts to evaluate the level of Varroa infection in each hive involved in the grant. Protocols were established for grant colony inspections, the same to include (a) visual identification of pink marked grant queens, (b) identification of eggs, (c) identification of brood on each frame, (d) evaluation of level of Varroa mite infestation, (e) date of inspection, (f) hive identification, and (g) inspector identification. These inspections were on a 14 day cycle through the active bee season (after queen introduction)-July31-October 29, 2016. Inspectors were trained by grant Consultant Ken Warchol. Ken Warchol trained 17 inspectors in inspection technique and the use of data sheets at a RIBA Field Day on active hives. Nine Inspections kits were handed out to 17 inspectors. Kits included In addition to simply monitoring survival, the Association attempted to influence survival of colonies by training individuals to monitor hive health at all times, and to keep data concerning health**

indicators from time to time. The Association also attempted to influence survival of colonies by engaging in training all beekeepers to more effectively control varroa mites and other parasites and diseases. It should be noted that these efforts were not required by the grant contract, although it was anticipated that successful training would result in greater survival rates. During the preceding reporting period, consultant Ken Warchol developed field data sheets and alcohol wash protocols for Varroa mite counts to evaluate the level of Varroa infection in each hive involved in the grant. To a limited extent, these field activities were implemented by field inspection teams and by beekeepers. Significant problems were monitoring were encountered, which are discussed in another section of this report.

- the relatively small number of volunteer inspectors; the use of volunteers for third-party inspections is inherently unreliable;
- The fact that some inspection “teams” are in fact married couples who vacation together, with result that at any given moment during the summer season, the number of “available” inspectors is substantially less than the number of trained inspectors;
- The fact that despite original volunteer enthusiasm, as the monitoring season continues, volunteers discovered that monitoring third-party colonies is difficult and inconvenient, and volunteer participation drops off over time

The ability of volunteer inspectors and monitors to find the time to travel to third party locations to monitor hive health and queen acceptance is extremely limited. If hive health is to be monitored on an ongoing basis, as opposed to simply inspecting once to determine whether a Grant Queen has survived the winter, another methodology for hive inspection should be considered. As a result of the problems associated with third party monitoring of hives, it was decided to rely on telephone communications to secure survival data during the grant period. Telephone interviews by volunteers indicated that the survival rate of 175 Grant Queens distributed during the summer of 2016 was approximately 8.5%. The rate for queens distributed during the following summer is

believed to be between 18% and 20%. The survival rate for queens distributed during the summer of 2018 is unknown at this time since this report is filed prior to the winter of 2018-2019.

Target Goals Achieved

ESTABLISHED GOAL	ACCOMPLISHMENTS
To provide one genetically superior queen to all registered Rhode Island beekeepers	775 high quality queens were obtained and distributed to members of RIBA and other Rhode Island beekeepers. Since the Grant managers do not know the number of beekeepers in the State of Rhode Island, it has not been possible to determine whether the distribution of a total of 775 queens to date has resulted in the Established Goal having been achieved, but it is believed that a significant percentage of colonies in Rhode Island received a Grant Queen. The extent to which those Grant Queens have survived is reported elsewhere in this report
To provide both packaged bees and queens for the already established queen rearing bee yard initiative	In the first reporting period, 69 colonies were established with grant queens or re-queened with grant queens within three miles of existing or newly established queen yards. Thus, this goal may be accurately stated as having been achieved during the first reporting period. However, few if any of those colonies are known to have survived. RIBA no longer maintains a yard specifically devoted to queen rearing.

Significant Results and Accomplishments

The grant application anticipated that introduction of superior queens would result in more vigorous colonies exhibiting improved varroa mite resistance (i.e., reduced varroa mite levels), improved hygienic behavior (i.e., bees will aggressively remove/clean diseased or mite infested brood resulting in improved overall health of the colony) ,and improved brood pattern (i.e., a brood pattern that is larger). Queens were selected for distribution to RIBA members based on their having been specifically bred for these

characteristics. **Information concerning the sources of distributed queens and the genetic characteristics of the distributed queens may be found at the links provided in the footnotes.** ^{1,2,3,4,5}. RIBA members volunteered to euthanize or re-purpose existing queens (“market queens”) and replace them with Grant Queens. In so doing, with the exception of Grant Queens that were not successfully substituted for market queens, the Grant Queens contributed superior genetic characteristics to their own colonies, and spread superior genetic characteristics to the general honeybee population through the production of superior drone stock. The number of Grant Queens that were not successfully substituted is unknown, but believed to have been significant during the first year of the grant and believed to have decreased significantly during the second year of the grant.

The grant application also anticipated that the introduction of superior queens into colonies surrounding the established bee mating yards insures that the drone populations available to mate with queens from the bee mating yards would produce superior honeybee stock, increasing the probability of a successful and ongoing program for the production of high quality, genetically superior queens locally available for sale or distribution to Rhode Island beekeepers.

One goal of the project was to provide one genetically superior queen to all registered Rhode Island beekeepers and to provide both packaged bees and queens for the

¹ <http://jackieparkburrisqueens.com/>

² <https://vpqueenbees.com/>

³ <http://www.honeyrunapiaries.com/nwc-queens/>

⁴ [Resistance to American Foulbrood disease by honeybee colonies APis mellifera bred for hygienic behaviors . Apidologie 32\(2001\)555-565.](#)

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<http://www.saskatraz.com/articles/New/The%20Saskatraz%20hybrid%20project%202015%20ver0122F.pdf>

already established queen rearing bee yard initiative. Implied in the first part of that goal is that Grant Queens would be successfully introduced as substitutes for market queens in a statistically significant number of Rhode Island colonies. By assuring successful substitution, it would be assured that the genetic characteristics of mite resistance, hygienic behavior and improved brood pattern would become more common in the general honeybee population in Rhode Island, to the benefit of Rhode Island beekeepers.

A second goal of the project was to provide both packaged bees and queens for the already established queen rearing bee yard initiative. Underlying the second part of that goal was the fact that RIBA had recently funded and begun a project whereby it had financed training for beekeepers interested in rearing local queens. The project was in its nascent stages, and depended entirely on volunteer efforts. By providing funding to establish additional queen yards, and by assuring that drone yards would be available to provide genetically superior mating stock in support of the queen yards, the RIBA program would be more likely to be successful in providing a source of genetically superior local queens for local beekeepers.

Conclusions and Recommendations

The underlying basis of the project lay in the hypothesis that by providing a significant number of genetically superior queens to Rhode Island honeybee colonies, the overall quality of the local gene pool would be enhanced. This would result in a population of honeybee colonies that would be more resistant to parasites and diseases and (for this reason) more likely to survive Rhode Island's winter weather. The hope was this would be accomplished (a) by distributing high quality genetic material in the form of queens bred for parasite and disease resistance and (b) enhancing the quality of queens produced in

those honeybee yards that are specifically maintained for the production of queens. A number of challenges were faced by the grant managers, catalogued below.

Challenge	Corrective Actions
<p>Beekeeper resistance to euthanizing or re-purposing market queens. The grant administrators found that despite training and experience, many beekeepers are unwilling to euthanize a market queen to permit substitution of a Grant Queen</p>	<p>Regular educational efforts were undertaken by RIBA officers and teachers to combat personal attachments to particular “favorite” queens. A Queen Introduction Protocol (QIP) was developed in cooperation with the grant advisor which permitted and encouraged beekeepers to forbear from euthanizing queens in favor of re-purposing them by beginning nucleus colonies, with the result that grant participation appeared to increase.</p>
<p>Lack of ability to control for variables that affect viability of Grant Queen when substituted for market queen. Acceptance of a substitute queen is not guaranteed under the best of circumstances. Acceptance is affected by timing, manner of substitution, health of receiving colony, and multiple other factors which the grant administrators could not control for. Accordingly, especially during the beginning stages of the grant, much anecdotal data was collected concerning the immediate rejection of (and killing of) a Grant Queen by a potential home colony.</p>	<p>A Queen Introduction Protocol (“QIP”) was developed in cooperation with the grant advisor. The QIP was made a condition of grant participation during the spring of 2018. The QIP is believed to maximize the probability that a new Grant Queen will be accepted by a small, queenless, nucleus colony created by the beekeeper, which can then be grown to a full colony in time to maximize the potential for winter survival (all other factors being equal, see below).</p>
<p>Lack of ability to control for variables that affect survival rates among Grant Queens when substituted for market queens. Grant Queen rejection by a queenless colony is only one of many variables that affect colony health and medium to long term survival and reproduction. Other factors include weather, availability of food, parasites, diseases, viruses, and weather. While beekeepers can control for many of these variables, the grant managers cannot, and depend on the skill of the beekeepers to manage their colonies.</p>	<p>This was a known challenge as of the date of the grant. In response, RIBA as one of the managers undertook to enhance training of beekeepers in techniques for parasite control, disease recognition and treatment, virus and parasite avoidance, winter insulation, and winter feeding. RIBA added one hour to its monthly meetings for the sole purpose of educating novice and new beekeepers as to the challenges of keeping even the healthiest honeybee colonies alive.</p>

<p>Lack of experience and skill among beekeepers attempting to substitute Grant Queen for market queen. Each year of the grant, in addition to continuing education for its members, RIBA teaches as many as 100 new members the skills of beekeeping. These “novices” are significantly lacking in the experience based skills required for successful beekeeping, and supplying them with a Grant Queen enhances their probability for initial success in the field only slightly.</p>	<p>See response immediately above. RIBA expanded its meetings to provide specific instruction for new beekeepers as to basic beekeeping skills and knowledge.</p>
<p>Lack of ability to control for non-queen related factors that affect survival rates among honeybee colonies. Some of these challenges are discussed above. The one that is not discussed may be one of the most significant, based on evidence gathered by others over the several years previous to and during the grant period. Large numbers of beekeepers do not treat their hives for certain diseases and parasites, with the result that their colonies die off regularly. These dying and dead colonies attract bees from healthy colonies and are “robbed” of resources, with the result that their diseases and parasites are transmitted to healthy colonies.</p>	<p>This appears to be an intractable problem insofar as the non-treating beekeepers tend to forbear from attending RIBA meetings. Since treatment for diseases and parasites is implied, if not explicit, in the QIP, “treatment free” beekeepers, so called, tend not to participate. However their dying hives have an impact on the survival of hives of grant participants.</p>
<p>Limited availability of Grant Queens to beekeepers in the first year of distribution. During the first grant year, the administrators distributed all Grant Queens from one location on one day. Weather did not cooperate, and fewer Grant Queens were distributed than anticipated.</p>	<p>During the second and third years of distribution, Grant Queens were distributed on multiple dates during the spring and summer. This assured that more beekeepers would be able to participate, and that beekeepers whose Grant Queen(s) was rejected the first time would have a second opportunity to participate.</p>
<p>Limited availability of adequately trained volunteers to manage grant activities such as data retrieval.</p>	<p>Additional volunteers were requested to evaluate hives and mentor less experienced beekeepers.</p>
<p>Unreliable supply chain for grant materials; specifically, long delays during shipment of live queens that affect short term viability and long term colony</p>	<p>Grant Queens from this shipment were not used for grant purposes.</p>

<p>success. In one instance, Grant Queens spent days in transit from the breeder to RIBA for distribution. They arrived stressed, and in some cases dead or dying.</p>	
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GOALS AND OUTCOMES ACHIEVED

Seven Hundred Seventy Five (775) genetically superior queens were distributed over the course of the grant period. The grant managers are unable to determine whether the goal of achieving the distribution of one Grant Queen to each Rhode Island beekeeper; however anecdotal information suggests that it was not fully achieved. The Rhode Island Beekeepers Association has over 500 members, and it is not clear that each of them participated in the grant. Also, some registered beekeepers are not members of RIBA and have little contact with the organization. Accordingly, on a technical basis, the narrow goal of “one queen for each beekeeper” was not achieved. However from a broader perspective, some evidence suggests that a broader (albeit unstated) goal of the program was achieved; enhancing the overall health of the Rhode Island honeybee genome by introducing a higher percentage of genetic material associated with long term survival in the Rhode Island climate. In support of this statement is the fact that winter survival appears to have increased during the two reported Grant years. The grant managers theorize that some factors leading to this increase might be the following:

- (a) It can be postulated that the large influx of superior genetic material through superior queen introduction during the spring/summer of 2016 increased the general survival rate of all colonies in Rhode Island in 2017-2018, notwithstanding that few of the 2016 queens survived into the spring of 2017;
- (b) It can be postulated that continuing introduction of superior genetic material into the general population through queen distribution continued the trend noted in (a) above insofar as newly introduced Grant Queens produce drones during the spring and summer which in turn mate with queens from other colonies, enhancing the genetic quality of the general population through natural leveraging of the overall Rhode Island gene pool toward higher survival rates;

- (c) Significant participation by RIBA members in the grant program combined with enhanced educational efforts to assure successful queen introduction tended to enhance successful queen introduction and queen survival during the spring-summer of 2017 as compared to the spring-summer of 2016.

BENEFICIARIES

The beneficiaries of this grant are Rhode Island beekeepers and Rhode Island farmers who depend on honeybees to pollinate their crops. **To the extent that virtually every backyard gardener and every commercial agricultural professional depends on a healthy honeybee population for pollination of crops (an area for further study), each of them benefited from this grant to an extent that is not measureable. Similarly, every beekeeper in Rhode Island benefited from the grant. This includes the over 500 members of the Rhode Island Beekeepers Association, and an unknown number of beekeepers who are not members of RIBA. It should also be noted that the level of beekeeping expertise in the general RIBA membership is believed to have increased significantly, even for non-participating members, as a result of activities undertaken at meetings for the benefit of grant participants. Finally, it must be kept in mind that the number of beneficiaries is not limited to the beekeepers who received queens through the grant. When those queens laid drone brood, the resulting drones spread the advantageous genetic material into the general honeybee population, which includes queens produced by other, non-participating beekeepers.**

LESSONS LEARNED

Increasing genetic diversity and increasing colony viability through the importation of genetically superior queens and the distribution thereof to local beekeepers in a particular area such as the state of Rhode Island was more difficult than originally anticipated in connection with this grant, although it is believed that progress is being made in this area. It is believed that a number of factors contribute to the difficulty of managing colonies so

that replacement queens survived their first winter. Primary among these factors was that few beekeepers in the state of Rhode Island had sufficient expertise in colony management to assure that they successfully introduced a grant queen into their existing hives and thereafter managed the hive in such a manner as to assure that the colony survived throughout the ensuing winter season.

Assuring winter survival is a challenging prospect even for well-established, experienced beekeepers, and it is believed that substantial efforts at educating the beekeeper population in managing colonies and successfully introducing high-quality queens increased the rate of survival of grant queens over the winter of 2017 -2018, and that this trend will continue over the winter of 2018 - 2019. The Association believes that the substantial efforts made during the second reporting period aimed at increasing survival rates for queens distributed during that reporting period resulted in a significant increase of winter survival, from 8.5% survival rate for queens distributed during the first reporting period to between 18% and 20% during the second reporting period.

Participation in grant activities was high among Rhode Island beekeepers, notwithstanding that the survival rate for queens distributed during the initial reporting period was only 8.5%. The evolution of queen replacement procedures and monitoring techniques was ongoing during the course of the winter of 2016 – 2017 and 2017-2018, and as a result, changes were made in the education and queen distribution processes as compared to the previous reporting period, as follows:

- a. The grant managers focused on maximizing the survival of queens by ensuring that the time during which caged queens were being transported or were awaiting insertion into destination colonies was minimized;
- b. The Association worked with package suppliers to re-queen some packages imported into Rhode Island during the month of April 2017 and May 2017 with

Grant Queens, so as to make it unnecessary for package purchasers to re-queen following installation of packages;

- c. Delivery of some grant Queens was staggered throughout the summers of 2017 and 2018;
- d. To increase genetic stock diversity, four sources of genetically superior queens were identified and used as suppliers for grant Queens (as compared to one supplier during the first reporting period), 3 of which were based upon Italian queen stock and one of which was based upon Carniolan queen stock;
- e. Additional workshops were held to teach beekeepers the skills required for successful queen introduction into existing colonies, new packages, and colony splits;
- f. Additional distribution points were established throughout the state, and distribution was accomplished by teams which, in each case, included an experienced and trained beekeeper to answer questions of distributees with respect to introduction of new queens
- g. Beekeepers obtaining grant queens were asked to refrain from using drone comb removal as a method of varroa mite control, so as to increase the drone production by Grant Queens and minimize disturbance of colonies;
- h. In order to increase participation, beekeepers were not limited to a single queen, but were permitted to replace queens as they became available without a limit as to the number of queens that could be acquired through the grant program
- i. RIBA developed a re-queening protocol (see QIP above) to maximize the chance of successful Grant Queen introduction and required compliance with the QIP during the spring-summer of 2018. A copy of the protocol is attached to this Final Report. It is believed that the development of this protocol represents a significant step forward in assuring successful introduction of queens into existing colonies, and that it foreshadows an enhanced survival rate for colonies possessing superior genetic material in the general population.

It is believed that these measures had a measurable and substantial impact, insofar as the winter survival rate over the winter of 2017-2018 was between 18% and 20%.

Financial Data associated with Grant Expenditures is attached to this Final Report.

Respectfully submitted:

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