

Specialty Crop Block Grant Program—Farm Bill

Massachusetts Department of Agricultural Resources

**USDA / AMS Agreement No. 12-25-B-1676
FY 2013 Final Annual Performance Report**

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Organization: The Boston Public Market Association

Project Title: Specialty Crop Vendor Outreach Project

Final Report

FY13 12-25-B-1676

THE BOSTON PUBLIC MARKET SPECIALTY CROP VENDOR OUTREACH PROJECT

Project Summary

The Boston Public Market Association (BPMA) is leading the effort to open a year-round 28,000 square foot public market on the Rose Fitzgerald Kennedy Greenway. The market will showcase the very best of locally grown and produced food, providing enterprising producers with unique access to urban customers and increasing consumption of local food. The Boston Public Market will launch in the summer of 2015 and, once open, will be the only locally sourced market of its kind in the United States.

At launch, this retail outlet will enhance the competitiveness of eligible Massachusetts grown specialty crops by providing farmers and producers direct access to consumers throughout the year, as well as an outlet to increase consumer awareness and demand of specialty crops. The year-round sales outlet will also encourage specialty crop producers to extend their growing season both earlier and later in the season through greenhouse, hydroponic and other growing methods.

One year ago, we recognized the need to expand our outreach and education efforts to specialty crop vendors in the region, in order to ensure their participation now and in the future. The Boston Public Market Specialty Crop Vendor Outreach Project enabled us to take an important step in the process of creating a successful market that includes Massachusetts's specialty crop producers. Our outreach efforts enabled several producers to submit full applications to become market vendors and inspired others to begin strategic planning to become vendors in the future. Without this project, many specialty crop vendors would not have received the outreach, technical assistance and education necessary to seize this opportunity.

Over the past year, BPMA staff has identified, contacted and supported over 100 specialty crop vendors from the Commonwealth as part of this project. Staff has provided tailored materials, outreach, application guidance, technical assistance, design services, and creative assistance to

SC producers in an effort to best serve this important constituency. Through these efforts, several specialty crop vendors have entered the leasing process for the Boston Public Market. Staff has also worked with and encouraged applicants to consider sourcing additional product from other Massachusetts specialty crop producers. Through aggregation efforts, a greater number of specialty crop vendors will be represented at market launch.

The Project Approach

Specialty Crop Producer Focus

None of the funds received for this project were used for outreach or to benefit the non-specialty crop producers we will also be recruiting. The materials produced, the outreach conducted and the staff time spent through this project was used solely for non-specialty crop producers, as overseen by MDAR. Project partners participated in connecting the BPMA with eligible SC producers to expand our network.

Outreach

One of the primary goals of the Specialty Crop Vendor Outreach Project (SCVOP) was to increase the Boston Public Market's network of specialty crop producers through education and outreach (Phase One). The overall goal of phase one is to educate the maximum amount of specialty crop vendors on the BPM project so we can determine which of these vendors are best suited to participate in the market.

The BPMA Project manager successfully created outreach and information materials and conducted broad outreach to specialty crop vendors through in-person regional vendor meetings. The Project Manager worked closely with MDAR and other project partners during outreach and material creation, to ensure comprehensive outreach to Massachusetts's specialty crop producers. The Project Manager and BPMA staff remained highly engaged with specialty crop producers throughout the grant period and continued outreach efforts into the fall.

As proposed by this project, BPMA staff created a database of specialty crop vendors who are interested in the Boston Public Market. This database has already contributed to ongoing recruitment efforts for the year-round market, and will be used in the future for daystall recruitment and to disseminate producer education opportunities hosted by the market. Members of the database will receive updates and information about opportunities at the public market, including vending, programming, technical assistance and small business development opportunities.

Vendor Applications

Phase two of the project focused on creating tools for specialty crop vendors to analyze their ability to participate in the market and assisting producers through the application process. Significant staff time was dedicated to preparing specialty crop vendors to submit vendor application, including providing technical assistance and answering questions. Materials were disseminated to producers prior to the close of the application period.

Reviewing and following up on SC producer applications proved to be some of the most time consuming work of the project. Staff read and reviewed each application, contacting many SC vendors with follow up questions and requests for additional materials, as well as fielding questions from SC vendors leading up to, during and after the application process. Following committee review of each application, BPMA staff visited each SC producer's individual farm in person.

The Boston Public Market Association has been and will continue to be constantly recruiting vendors for the Boston Public Market. During the first round of vendor applications in the summer of 2014, the BPMA received twelve specialty crop full applications. After this initial round, the BPMA continued to solicit, receive and review specialty crop inquires and applications throughout the fall and winter of 2014.

Additional Recruitment

Throughout phases one and two of this project, the BPMA's Project Manager compiled a database of interested and appropriate specialty crop vendors. This database has already proven to be a valuable tool for market staff, especially given the unexpected but necessary addition of a second recruiting phase. Given the financial and logistical challenges presented by stocking and staffing a year-round stall at the public market, there was understandably some applicant attrition. Several early specialty crop applicants also realized a need to seek additional product sources for the success of their enterprise within the public market. Market staff worked to link these current applicants to other MA specialty crop vendors in our network.

BPMA staff conducted systematic calls with Massachusetts's specialty crop vendors who submitted intent to apply documents without submitting final formal applications. Staff used these individual calls to help specialty crop producers troubleshoot, navigate logistics, and ideally submit a full vendor application. The staff also conducted additional outreach to vendors who had not been contacted in the initial round of recruiting. This outreach served to solicit new applications and to begin the process of preparing a larger selection pool for the future.

Leasing

BPMA staff and the selection committee approved specialty crop vendor applications and moved vendors into an intensive, interactive period of problem solving and troubleshooting. Staff worked with vendors, construction team members, equipment providers and industry experts to begin the design phase of specialty crop vendor stalls. SC vendors were treated as anchor tenants and given additional consideration and support around stall design,

The BPMA staff members engaged in weekly meetings with construction and design teams to discuss/troubleshoot and develop a standardized approach to the build out process for specialty crop vendors. Embedded in the process was staff research into refrigeration, delivery, health code, and storage solutions specific to specialty crop vendors. Fresh produce in particular required extensive planning, research and materials development so that staff could engage SC vendors in lease negotiations.

BPMA linked SC vendors to our partner organization, the Legal Food Services Hub. Legal Food Services Hub will provide free, independent legal services to qualifying vendors during lease negotiation. In December of 2014, BPMA staff began lease negotiations with six SC vendors.

Goals and Outcomes Achieved

Expected Goal: Secure at least 15 specialty crop producers as vendors in the Boston Public Market

Performance Measure: Number of specialty crop producers who express interest in, apply for space and participate as vendors in the Boston Public Market

Baseline: At the onset of this project, 31 specialty crop producers had expressed interest in becoming vendors at the Boston Public Market.

Target: By the end of the SCVOP we hoped to increase our network to a minimum pool of 50 interested specialty crop vendors.

Actual Outcome

As of December 2014, six specialty crop producers had entered lease negotiations for permanent stalls at the Boston Public Market. These six vendors are anticipated to launch with the Boston Public Market in the summer of 2015. Each of these vendors will have a year-round, retail presence branded under their farm name in the market.

In order to meet the demands of year-round, high volume retail, each of these six vendors will also source products (primarily fresh fruit and vegetables) from other Massachusetts specialty crop producers. Through these aggregation partnerships, 23 additional individual specialty crops producers and one growing association will be represented in the market. The growing association sources from an additional 21 specialty crop producers. At market launch, there will be at least 50 specialty crop producers represented in the Boston Public Market at any given time.

In December of 2014, the BPMA staff had not yet developed a plan for daystall leasing or popup vendor opportunities within the permanent market. However, given the work of this grant to identify and cultivate relationships with SC vendors, it is certain that additional SC vendors will be represented in the public market at launch.

Unexpected Outcomes

This grant has also allowed BPMA staff to provide additional support and opportunities to SC vendors beyond application assistance and network cultivation. The BPMA has developed several strategic partnerships with outside organizations to provide support and technical assistance for SC vendors now and in the future. Notable outcomes include:

Streetwise MPA Program: BPMA, CropCircle Kitchen and Interise co-sponsored a free, six-month intensive small business course geared towards current and future vendors of the Boston Public Market. The program focused on small business development and strategic planning for current small business owners. The course was advertised widely to the SC vendor network through the database.

Technical Assistance Programming: In the fall of 2014, the BPMA began to engage UMass Amherst in the creation of technical assistance programming for specialty crop vendors. Technical assistance programming will be an ongoing throughout the launch of the public market and will be open to all specialty crop vendors in the BPMA network.

Monitoring and Evaluation: The BPMA worked with a team of Harvard Kennedy School students to develop a monitoring and evaluation framework for market vendors. The aim of this framework was to measure the success and impact of the market on vendors and the regional food system. The team created a section of the framework specific to measuring the inclusion of specialty crop vendors and the impact of market participation in on these vendors. This framework will be used in the first year of market operations and beyond, allowing the staff to measure possible long-term impacts of this project.

Proposed Endline: At the end of the SCVOP, we have met our goal to increase our network to over interested specialty crop vendors to at least 50 interested vendors

Actual Endline: We have met and exceeded our initial goal, by growing our network of specialty crop vendors to over 100, and representing more than 15 specialty crop vendors on the market floor at launch.

Long Term Outcomes

One of the overall goals of the BPMA is to operate a public market that will maximize the economic impact for local specialty crop producers. The future economic impact of the Boston Public Market on specialty crop producers may vary from year to year, as more producers are able to supply market vendors and become vendors themselves. We ultimately expect that specialty crop beneficiaries will be able to increase production throughout the years to meet demand, further increasing their profitability.

We also believe that having access to a year-round sales outlet will also encourage specialty crop producers to extend their growing seasons both earlier and later in the season through greenhouses, hydroponics and other methods. We will continue to monitor the shift in demand throughout the first several years of market operation, using our database of vendors as a baseline measure of interest and comparing it to future capacity and interest.

Beneficiaries

In total, over 100 specialty crop vendors benefited from this project through networking and information sharing opportunities. At least 50 specialty crop vendors will be represented in the Boston Public Market at launch, due largely to grant activities. Six specialty crop vendors will manage their own stalls and continue to form and expand partnerships with additional specialty crop producers.

All 50 specialty crop producers will have their products sold and marketed by the Boston Public Market. Through this opportunity, vendor will directly enjoy an expanded, year-round urban retail environment. The potential economic impacts of this project include season extension and increased production of specialty crops in Massachusetts. We hope that in the future, every

member of our specialty crop vendor network will benefit from the creation of the Boston Public Market.

Lessons Learned

This project allowed BPMA staff to create a systematic approach to incorporating specialty crop producers in to the market, while simultaneously measuring current interest levels and capacity. We learned a great deal from this process and hope to incorporate the following insights into our future work with specialty crop producers in years to come.

1. **Year-round commitment, timing and scale:** Throughout vendor outreach and information sharing, it became increasingly apparent that the timing played a large role in the ability of specialty crop producers to participate in this project. Specialty crop vendors were more able to commit time to crafting applications, considering equipment and reaching out to other producers during the fall and winter. It also became apparent that many specialty crop vendors required additional seasons to build capacity to participate in a year-round market. The commitment to full time staffing and stocking of the market stall was prohibitive to many producers given their current level of staffing and production. Through this process, we learned that specialty crop vendor engagement would be a multi-year endeavor, and that providing information and support this season would likely produce results further down the road.
2. **Physical challenges with the space:** Many of the challenges identified by specialty crop producers included issues of operating logistics—transportation, financing, storage, and staffing. The first round of leasing allowed our staff to troubleshoot these issues and work with our design and construction teams, as well as project partners to begin to address these challenges. We learned a great deal by working directly with SC producers and have incorporated many of their suggestions into our leasing and market standards protocols. We will be better prepared to answer questions and provide support to future specialty crop producers and hope to create added resources around storage and transportation through future partnerships.

As of December 31, 2014, all funds were expended for this project. No continuation of funding was requested, given that all proposed grant activities were completed at this time.

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Organization:

Cape Cod Cranberry Growers Association

Project Title:

Creating a Mapping Application Toolkit for BOGS Online Grower System

Final Report:

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Project Summary

In 2012, the Cape Cod Cranberry Growers' Association launched the web-based BOGS Online Grower System, enabling growers to track their applications of pesticides, nutrients, IPM records and more. Electronic record-keeping helps cranberry growers document their growing practices, stay in compliance, increase efficiencies, decrease the likelihood for application errors, and create use reports that satisfy government and/or marketplace needs. Electronic tools for growers allow them to better meet national and international marketing standards and to stay competitive.

This grant project focused on adding a mapping component, which has greatly increased the functionality of the system, created an illustrated format for easily displaying pesticide application information, provided a visual as well as tabular method for analysis, satisfies regulatory requirements and increases overall usage. Utilizing maps allows for a more precise method of selecting bog sections, insuring no sections are missed. It also enabled a partnership with the New Jersey cranberry growing region, as they have a regulatory criteria requiring maps denoting where they have applied pesticides. This grant has created a strong foundation for industry collaboration, regulatory compliance and environmental stewardship.

Project Approach

The project kick-started by meeting with a select group of 10 BOGS users that supplied feedback and direction on what they would like to see with the creation of a mapping application. We discussed work flows, ease of use and functionality needs. Next, we met with 2 key New Jersey growers who described their regulatory process and their specific mapping requirements. Finally, this information was all presented to the application developers, Fishnet NewMedia, who through a series of meeting and phone calls were tasked with taking the information and identifying the mapping needs for the application.

Fishnet then researched the best mapping application from a development perspective and chose Google's Mapping API product.

Due to delays occurred by the development team at Fishnet and considerable time spent securing the non-profit license from Google, development did not begin until late spring. Fishnet originally estimated that development would take one month but the learning curve was steeper than originally expected and took significantly longer. Development concluded in the fall, after the cranberry growing season ended. Travel to New Jersey was conducted to begin to outline the program and obtain additional feedback during the development process.

Initial grower testing has been conducted with some changes suggested to make the mapping easier to use and available on different sections of the BOGS program. The mapping application will be highlighted at the CCCGA Winter Meeting in March 2015, which will be attended by more than 300 cranberry growers. Widespread use of the system is expected this growing season. CCCGA will provide ongoing user education and support. A grower survey will be conducted in the fall of 2015, after harvest, to measure the first year of the system. Web metrics will be monitored regularly and analyzed to passively determine use patterns and identify work flow or usability shortfalls.

Goals and Outcomes Achieved

- 1) *Goal - Increase overall use of the BOGS application***
when the mapping project started, there were 50 growers utilizing the BOGS Online Grower System. In 2014, only one additional net user was obtained. However, there were 5 new growers that used the BOGS system but there were 6 others that did not renew. There is currently significant financial distress in some sectors of the cranberry industry and those growers that did not renew were all part of that downturn. As a result, they were not able to expend resources to utilize the BOGS program and/or they did not grow a crop and thus had no reason for a record keeping system. Because the mapping application was not developed until after the growing season, there was no tangible application to entice additional growers to join. The target for the grant was to have a 25% increase in users. This figure may not be attainable due to the harsh financial situation facing many growers and the outlook remains unchanged for the foreseeable future. We will measure grower subscriptions in 2015 and beyond. The mapping application will still increase usage in the short term but achieving 25% in the first year may be optimistic; 15-20% may be a more realistic figure.

2) *Goal - Reduce cost (time) and improved regulatory compliance with pesticide record keeping*

The goal was for growers to input pesticide data and send in compliance reports faster and easier than with their current protocol or by the previous functionality available in BOGS. The target objective was to obtain a minimum 20% decrease in the time it takes to input records. This benchmark is still expected to be obtained. Since the mapping application was developed after the growing season, there was no way to measure efficiency or improvement. This will be measured in 2015, utilizing the same methodology as originally described. This will consist of conducting an electronic survey of growers at the end of the harvest season to determine their time savings. We will also survey handlers, MDAR and New Jersey DNR to determine if there was an increase in required reports being delivered on-time and/or completed more thoroughly than in the past. Beyond that, CCCGA will continue to survey growers and solicit feedback routinely to better understand the effectiveness of the mapping application, to foster greater awareness of the program and continue to increase use of BOGS in the future.

3) *Goal - Improved decision making for pest management and Good Agricultural Practice (GAP) standards*

The expected outcome was to have growers that are in a GAP program for fresh fruit to utilize the mapping application within BOGS to improve their on-farm pest management program and better comply with GAP standards. 50% of users were expected to conduct a baseline of their procedures for GAP prior to using the mapping application. With development behind schedule, growers were not interested in conducting the audit for a product that was not going to be ready for the growing season and there were only 2 growers expecting to grow fresh fruit that utilized BOGS in 2014. With the decrease in pricing, many growers are considering growing fresh fruit in 2015 and beyond. With the mapping application complete and more time available prior to the growing season, we are expecting to obtain baseline data for at least one fresh fruit grower that is following a GAP standard. We will then compare end of the season results after growers have used the mapping tool. Although the data set may be small, the upside to GAP compliance and efficiencies is large. Even if the pool of fresh fruit growers utilizing BOGS may be small, the growers using the maps will help influence other growers to consider using the application. In addition, the handlers that have GAP certified growers will be able to see the value in the maps and will increase usage of BOGS through either active or passive encouragement with their growers. Beyond GAP fresh fruit growers, the benefits to the mapping application will extend into the traditional wet harvest growers, with nearly all users of the BOGS Online Grower System utilizing the mapping capabilities.

In addition, to the stated goals and objectives, there will be numerous opportunities for expanding the use of the mapping application in BOGS in 2015 and subsequent years. There will be direct training sessions for growers held periodically to help increase awareness and use of BOGS. There will be ongoing technical support provided by CCCGA staff. We are working on an online text help tutorial which will be ready for the 2015 growing season. In addition, plans are underway for video training modules of the BOGS mapping application. Other text and video

training modules have previously been created and these new additions will be seamlessly integrated into the application.

Beneficiaries

The direct beneficiaries of this grant were the growers of Massachusetts. Currently 50 growers are using BOGS, representing more than 25% of the cranberry acreage in Massachusetts. These growers will now have the added benefit of the mapping capabilities, enabling them to be more efficient producers. Growers in New Jersey now also have access to BOGS due to this grant project. These approximate 30 growers represent the entire population of cranberry growers in New Jersey, third most productive cranberry region in the country. They will also be able to use the program to stay in regulatory compliance with pesticide applications. This will also increase their on-farm efficiencies.

Indirect beneficiaries include the cranberry handlers of Massachusetts and New Jersey. These are the processors that receive fruit and create products and/or sell berries directly to consumers or other food processors. These companies will have access to better pesticide records and have greater assurance as to the quality and source of their fruit.

Lessons Learned

One of the exciting lessons was the mapping application qualified for a free Google Mapping API license which will enable the future use and enhancement of the application to continue without interruption for financial reasons. The base cost for this license is \$10,000 per year. With this cost removed going forward, growers will be able to enjoy the use of the maps without undue financial burden to the Association or time spent looking for grants or other resources to cover the cost. There was a significant delay in obtaining this license and that delay cost valuable development time. The time took in obtaining the license was simple back and forth between CCCGA and Google, exchanging emails, phone calls etc. They were approvals required, additional information needed from Google, etc. None of these factors in itself were of significance but they did take time to achieve. The end result, free access to the Google API mapping system, was well worth the time spent in obtaining the license. Once the licensing issues were resolved, the window of time for the developers to start coding was lost. We then needed to wait for their other work to be completed before they could begin coding. This delay caused the project to fall behind schedule.

There was a significant learning curve for the developers to code the maps, which was not entirely unexpected but did take much longer than expected. The additional time spent in developing the application and then structural changes caused as a result of feedback gained from the growers in order to satisfy reporting needs, caused the development component of the project to extend beyond the original scope and exceeded the original development budget. The original cost estimate was conducted in good faith but there were additional scope and development issues that were not foreseen but reasonable to deliver a new platform for the growers.

The learning gained through an understanding of the mapping development can now be leveraged for future benefit to the BOGS program and the growers. Any aspect of the BOGS application can now be easily mapped, enabling static tabular content to be enhanced through dynamic mapping. Any data that is input into BOGS can be captured and subsequently coded by the developers and turned into a map. This will enable future enhancements to be handled quickly and easily, without incurring significant development costs.

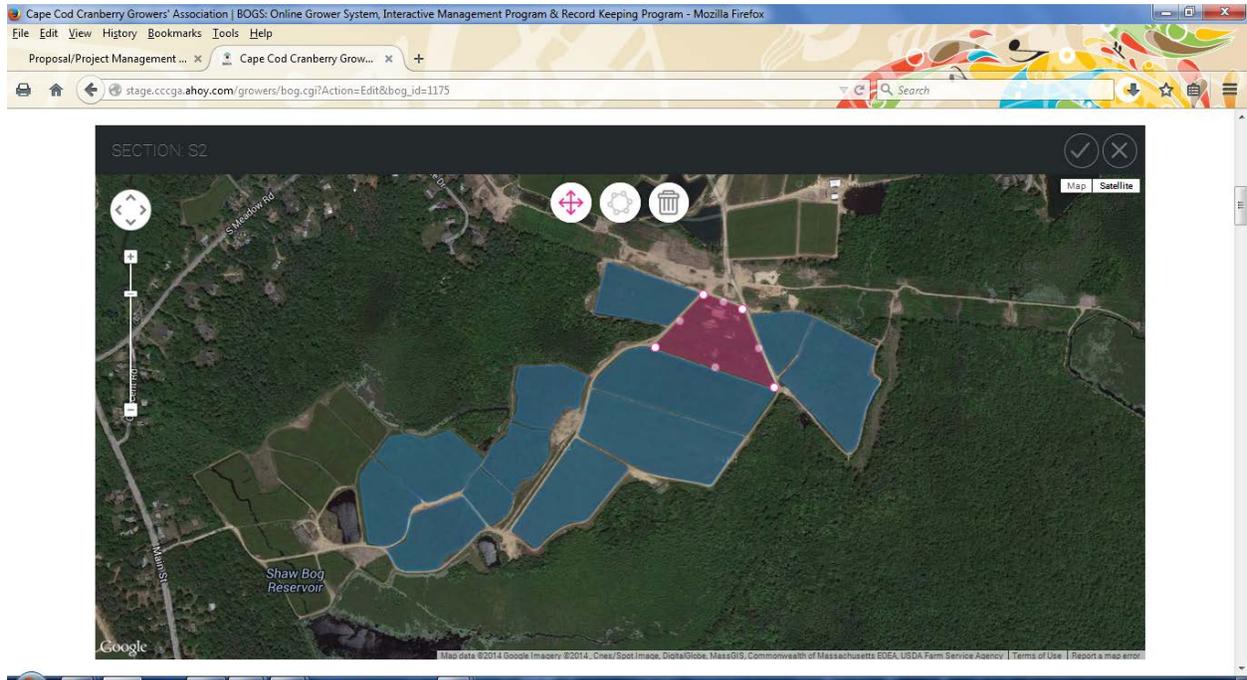
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Additional Information

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Screen capture of the BOGS Online Grower System depicting 2 sections of cranberry bogs identified using the mapping application



Screen capture of the BOGS Online Grower System depicting the edit screen of the mapping application.

Organization:

CISA

Project Title:

Supporting wholesale sales of specialty crops through farmer and retailer training

Final Progress Report:

FY13 12-25-B-1676

Project Summary

CISA worked with Berkshire Grown and Northeast Harvest to provide training and support directly to farmers interested in starting or expanding their wholesale business and to retailers and other wholesalers interested in purchasing local specialty crops to help them expand sales of specialty crops. In 2012, 91% of household food was purchased at retail outlets according to the ERS. Since shoppers are already using these outlets, increasing the availability of local specialty products is likely to also increase total sales of these products.

At the time of our proposal, farmers had indicated to us, during a previous SCBG, that demand and supply for many specialty crops are mismatched – for products that retailers want (e.g. asparagus) there are few growers interested in selling wholesale, while growers have supplies of crops (e.g. onions) that retailers have not been interested in purchasing. It was clear that farmers need more training and education to support successful wholesale sales and that retailers need more convincing to purchase local specialty crops and more support in finding good supplier matches.

This project grew out of our previous years' Specialty Crop Block Grant but was not a continuation of that grant. With the previous funding, CISA and our partners worked on a public promotional campaign focused on two specialty crops a month. This work shifted our focus to providing information, workshops, and one-on-one support directly to farmers and retailers, but will not include a marketing component.

Project Approach

We officially started this work in January 2014 and completed it in December 2015. We collaborated with our partners to educate specialty crop producers about wholesaling and to connect wholesale buyers with farmers in increase sales of specialty crops through wholesale

channels. Our goals in this project are to 1) **Increase the number of farmers interested and capable of selling wholesale local specialty crops**, 2) **Increase the number of farmers preparing for food safety certification** and 3) **Increase demand for wholesale specialty crops**.

During this grant period, CISA and our partners worked with both specialty crop farmers and buyers. We developed support materials for specialty crop producers interested in selling wholesale, held three introductory workshops for specialty crop producers on selling wholesale, developed year-end surveys for administration in each region to gain baseline data, coordinated four specialty crop producer- wholesale buyer networking meetings, and provided one-on-one assistance to seven specialty crop producers interested in starting or expanding their wholesale sales. In addition, we did outreach to 20 wholesale buyers and over 100 restaurants, developed lists of specialty crops available, and provided one-on-one support to seven wholesale buyers interested in starting or expanding their purchase of local specialty crops.

Non-specialty crop producers did attend our networking meetings and workshops, however their participation was off-set by matching and in-kind support. Otherwise, all activities solely benefited specialty-crop producers. CISA's first networking meeting was co-hosted by Hampshire College on 1/16/14, 21 specialty crop farmers attended. An additional 12 farmers attended and were off-set by matching and in-kind support. Berkshire Grown's networking meeting was held 2/3/14 and invited retailers and farmers. Wholesalers included Guido's Fresh Marketplace, the large independent grocery store with stores in Pittsfield and Great Barrington, The Berkshire Co-op Market, Ginsbergs, an independent food distributor. In-kind was provided to off-set non-specialty crop producers. CISA's second networking meeting took place 4/14/14 with 24 attendees (11 specialty crop producers, 3 non-specialty crop producers and 10 buyers). In-kind off-set the expenses of the three non-specialty crop producers. CISA hosted our third and final meeting 12/8/14 with 16 specialty crop producers and 5 non-specialty crop producers (plus buyers). In-kind off-set the expenses of the three non-specialty crop producers.

Our partners on this grant provided critical geographic support—without them we would not be able to provide specialty crop farmers in Berkshire County or Northeastern Massachusetts with training on wholesale sales, direct one-on-one support and resources nor would we be in a position to expand wholesale purchases by retailers. Our partners have on-the-ground knowledge of local farmers and buyers that was critical to the success of this project.

Goals and Targets

We worked to collect better baseline data to inform our progress on these goals. CISA analyzed our 2013, 2014, and 2015 annual year-end surveys. We also worked with Berkshire Grown and Northeast Harvest to ensure that both of them distributed surveys. Unfortunately, our partners'

baseline surveys were not finalized and sent until the spring of 2014, which was a busy time for farmers and despite multiple reminders, the number of farmers who filled it out was lower than we would have liked. Below we note the baseline data from 2012 and 2013, our original targets and our actual outcomes.

Goal: Increase wholesale sales of specialty crops in western and northeastern Massachusetts

<i>Benchmark</i> <i>2012/2013 data</i>	<i>Original Target</i>	<i>Actual Outcomes</i> <i>2014/2015 data</i>
Performance Measure 1: Increase the number of farmers interested and capable of selling wholesale local specialty crops		
<p>Number of farmers who state they would like to enter the wholesale market.</p> <p>Benchmark: 40</p> <ul style="list-style-type: none"> In CISA’s 2012 year end survey, 28% of respondents (9 farmers) said they would like to begin wholesale selling. According to Northeast Harvest and Berkshire Grown’s pre-surveys 70% (27/38 responses) of Northeast Harvest farmers and 36% (4/11 responses) of Berkshire grown farmers are interested in wholesale markets. 	<p>Maintain the number of farmers who want to begin wholesale sales.</p>	<p>Actual outcome: at least 56 individual specialty crop farms indicated they wanted to begin selling wholesale or begin selling to a new type of wholesale outlet.</p> <p>In 2014, at least 31 specialty crop farmers wanted to begin selling wholesale or selling to a new type of wholesale outlet and in 2015, at least 28 specialty crop farmers wanted to begin to sell wholesale (some of them were repeat names).</p>
<p>Number of farms who say they sell to retailers.</p> <p>Benchmark: 44 + farms</p> <ul style="list-style-type: none"> In CISA’s 2012 year end survey, 40.8% of respondents (31 farmers) 	<p>Across all three regions, we’d like to see 48 farmers selling to retailers/grocers (an increase of 10%) and total wholesalers increase to 65.</p>	<p>Actual outcome: at least 51 farms sell to retailers and 112 sell wholesale.</p> <p>As of the end of 2014 the total number of confirmed farmers who sell wholesale was 72.</p>

<p>said they sell to retailers/grocers. Our on-line guide lists 42 specialty producers that list wholesale (not exclusively to retailers).</p> <ul style="list-style-type: none"> • According to Northeast Harvest and Berkshire Grown’s pre-surveys 23% (9/38 responses) of Northeast Harvest farmers and 36% (4/11 responses) of Berkshire grown farmers currently sell to retailers. 		<p>As of the end of 2015 the total number of confirmed specialty crop farmers who sell wholesale was 112</p>
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Performance Measure 2: Increase the number of farmers preparing for food safety certification

<p>Benchmark:</p> <p>24 specialty crop producers in CQP and 24 GAP certified.</p> <ul style="list-style-type: none"> • Currently 24 produce farms in our counties are certified with Commonwealth Quality and 3 farms listed on FarmFresh.org are GAP certified. There is lots of room for growth, though we do not currently know how many farms are intending or working on getting certification at the time of this application. • In Northeast Harvest’s region 55% (21/38 responses) were GAP certified. 	<p>By the end of the year we would like to see 5 additional farmers say they have begun to look at certification and 2 become certified.</p>	<p>Actual outcome: There are currently 36 specialty product farmers in CQP and as of the end of 2015 at least 33 have confirmed GAP certification.</p>
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Performance Measure 3: Increase demand for wholesale specialty crops		
<p>Number of retailers who work closely with the Buy Local partners.</p> <p>Benchmark: 32</p> <ul style="list-style-type: none"> • CISA currently has 26 retailers in our Buy Local Campaign. • Northeast Harvest and Berkshire Grown work with an additional 6 retail relationships and over 60 restaurants. 	<p>Increase number of retailers we work closely with to 40.</p>	<p>Actual outcome: In 2015, CISA and our partners worked with 46 retailers.</p>
<p>Number of farmers who see an increase in retail sales.</p> <p>Benchmark: in Franklin, Hampshire and Hampden Counties 26.8% and 12.1% in Berkshires.</p> <ul style="list-style-type: none"> • In CISA's 2012 year end survey 6 farmers reported retail sales of less than 10%, 9 reported between 10% – 24%, 3 reported between 25%-49%, 1 reported between 50%-74% and 3 reported between 75%-100% of their sales were to retailers/grocery. Of the farms that reported retail sales, these sales made up an average of 26.8% of a farm's total sales. 	<p>Increase the average retail sales per farm to 30% in Franklin Hampden and Hampshire Counties.</p> <p>Increase average retail sales per farm in the Berkshires and Northeast Harvest region to 15%.</p>	<p>Actual outcome:</p> <p>For specialty crop farms that reported wholesale business, these sales made up an average of 41% of their total sales in Franklin, Hampden, and Hampshire counties.</p> <p>For specialty crop farms that reported wholesale business, these sales made up an average of 36% of their total sales in the Berkshires.</p> <p>Of the farms that reported retail sales, these sales made up an average of 24.5% of a farm's total sales in the Northeast Harvest region.</p>

<ul style="list-style-type: none"> • Berkshire Grown reports that 2 farmers reported retail sales of less than 10%, 1 reported between 10% – 24%, 1 reported between 25%-49%. Of the farms that reported retail sales, these sales made up an average of 12.1% of a farm’s total sales. 		
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Beneficiaries

There were three distinct beneficiaries of our project. Direct beneficiaries included the 112 specialty crop producers who sell wholesale – these farms grow a range of products from mushrooms to Christmas trees, though most of them produce fruits and vegetables. Specialty crop producers benefited from our networking meetings, workshops, and direct support from project staff all of which helped to increase sales for specialty crop farmers. In addition 46 retailers and many additional wholesale buyers benefited from the projects networking meetings and direct communication with project staff to help them increase their purchase of specialty crops.

Finally, customers who shop at retail venues or eat at restaurants benefited from the increase in availability of specialty crops.

Lessons Learned

In the course of this project it became clear to us that many specialty crop farmers who were interested in selling wholesale were willing to consider smaller wholesale customers such as restaurants and small retailers. Our workshops and networking meetings were able to provide those farmers with relevant information and we provided support to restaurants, institutions and schools in addition to retailers. I believe this was an important component of our project as it allowed farmers to develop comfort and familiarity with wholesale sales, which we believe will allow them to continue to expand their wholesale sales.

Face-to-face opportunities for specialty crop farmers and wholesale buyers to meet was an important component of the project—as developing direct relationships helps cement sales relationships.

Organization:

Massachusetts Farm to School

Project Title:

Opening Up the Food Service Management Company Market: Locally Grown Fruits and Vegetables for Colleges, Hospitals, and Schools

Final Report

FY13 12-25-B-1676

Project Summary

In this project, Mass. Farm to School Project sought to promote and support profitable specialty crop sales at institutions with corporate food management service contracts, which have historically procured all specialty crops through exclusive contracts with preferred vendors, often to the exclusion of local growers. Focusing on institutions in central and southeastern Mass., we researched and documented barriers, provided specialized assistance to farmers and distributors who wanted to overcome these barriers, developed closer working relationships with local and regional management company staff, and used our Mass. Harvest of the Month campaign as a tool to enhance the competitiveness of local specialty crops in corporate food service managed cafeterias and dining halls.

We chose to focus on local procurement by institutions with food service management company contracts because this is a sector of the institutional market that has long lagged behind in their local procurement efforts. With support from previously Specialty Crop Block Grants, MFTS had experienced significant success connecting self-operating institutional food service departments to local specialty crop producers - providing growers with new market opportunities and expanding access to healthy, locally grown foods by students across the Commonwealth. But large food service management companies such as Aramark, Sodexo, and Compass Group have historically not purchased specialty crops directly from local farms, nor required locally grown produce from their preferred vendors. We sought to impact this sector as it represents a large and growing portion of the institutional food service landscape.

Project Approach

a) A brief summary of activities performed and goals and / or targets achieved throughout the entire grant period. This should represent the activities/ goals and targets specified in Attachment B: Work Plan;

This project took a diversified approach to the overall goal of increasing sales opportunities for Massachusetts specialty crop growers. The approach included research to better understand the landscape of institutional food services controlled by food service management companies as well as the unique vendor requirements of these companies and their supply chain partners.

We worked to increase demand for local specialty crops by expanding our successful Harvest of the Month promotional campaign to more public schools, colleges and hospitals and encouraging food service management companies to adopt full participation of all of their accounts in the state.

We provided training and support to institutional food service providers employed by food service management companies to better enable them to procure locally grown specialty crops within their company's procurement parameters.

Finally, we updated our training materials and provided technical assistance for specialty crop growers to help them access the institutional market including those institutions with food service management companies.

b) If the project benefited commodities other than specialty crops, indicate how the Contractor ensured that grant funds were used only to enhance the competitiveness of specialty crops; and

All activities targeting farmers were focused on fruit and vegetable growers, thus only benefitting specialty crop producers.

c) A summary of the contributions and roles of project partners.

Our work has been greatly enhanced by several key partnerships. Our strong relationship with the Massachusetts Department of Agricultural Resources has aided in reaching our target audience of Massachusetts specialty crop growers. We have worked with MDAR's Commonwealth Quality Program Coordinator to conduct a workshop for specialty crop growers and to ensure that CQP growers are aware of training opportunities. Through MDAR's outreach tools such as the monthly Farm and Market Report, we were able to advertise opportunities for farmers to sell to schools, including specific information about

selling Harvest of the Month crops. Work with the Franklin County Community Development Corporation proved to be an effective tool for both reaching more specialty crop growers that are already working with the CDC’s Processing Center and for reaching leadership within FSMC who are working to secure frozen products from the CDC.

Our relationship with the Department of Elementary and Secondary Education was a key support for conducting research on the state of FSMC accounts at K-12 schools. In addition, DESE was responsible for administering the USDA Farm to School Census which we determined was an effective tool for gauging current local procurement practices by K-12 districts. The School Nutrition Association (SNA) of Massachusetts remains a key partner in reaching K-12 foodservice directors. Through SNA communications channels and participation in their annual conferences, we were able to reach large numbers of potential specialty crop buyers at one time.

Healthcare Without Harm has been a key partner in expanding our work to the healthcare sector. They have provided valuable contacts to individual institutions as well as key background information on the FSMC dominant in this sector. Through their coordination of Eastern Mass. and Greater Mass. Working Groups of hospitals, we have successfully introduced the HOTM campaign to this sector and learned firsthand about unique barriers to local specialty crops procurement in the hospital sector. The Farm to Institution New England collaborative and Real Food Challenge have been similar partners in our work with the college and university sector in Massachusetts. Both organizations maintain data on FSMC accounts in the college sector and provide valuable history and context on individual institutions.

Goals and Outcomes Achieved (including the following information)

a) A description of the activities that were completed in order to achieve the performance goals and measureable outcomes identified in Attachment B;

Activities	Status
PROJECT GOAL 1, OBJECTIVE A	
Activity 1: Draft food service director survey and distribute to all Mass. public and private	Completed - Activity Amended: (as reported previously in 2014) With the implementation of the USDA Farm to School Census in 2013 it was difficult to collect separate reliable data from districts and the decision was made to review and

<p>K-12 schools and colleges.</p>	<p>analyze the survey results from USDA’s Farm to School Census.</p>
<p>Activity 2: Use survey data to map FSMC contracts and approved vendor relationships (focus on central and southeastern Mass.)</p>	<p>Completed - Mapped the FSMC K-12 school contracts and worked with partners Healthcare Without Harm and Farm to Institution New England to document the hospital and college accounts respectively.</p>
<p>PROJECT GOAL 1, OBJECTIVE B</p>	
<p>Activity 1: Survey Big 3 FSMCs for requirements to become an approved vendor.</p>	<p>Completed - Survey questions were developed and then the FSMC were identified for the survey. Bon Appétit, Chartwells, and Sodexo were surveyed, due to their dominant presence in MA.</p>
<p>Activity 2: Survey a min. of 5 distributors that are currently approved vendors of the Big 3 FSMCs to document requirements for specialty crop farmers to sell to them.</p>	<p>Completed - Survey questions developed and vendors were identified based on their status as primary produce vendors for a number of FSMC accounts. The vendors surveyed were: Costa, Sid Wainer, Rochs, Farm Fresh RI, and Baldor.</p>
<p>Activity 3: Utilize food service director survey to identify current local foods purchasing practices at FSMC accounts in central and southeastern Mass.</p>	<p>Completed - Data collection tool amended but data tabulated from a combination of the USDA Farm to School Census and individual communications with FSMC District Managers and/or Marketing Managers who are tracking local procurement for their accounts.</p>

PROJECT GOAL 1, OBJECTIVE C	
Activity 1: Develop and conduct survey of specialty crop farmers to identify experience w/ and interest in wholesaling directly to institutions or via distributors.	Complete: Conducted survey in June, 2014 to identify farmer interest in institutional sales and primary crops grown. Data was tabulated and will serve as a resource for institutional buyers. Data was also supplemented by data collected in a farmer income survey conducted in Dec. 2014-/Jan. 2015
Activity 2: Update our guide to selling to institutions to include more info. about indirect sales and strategies for working with FSMCs.	Complete - Have made some additions and updates to the guide and have plan to re-design and print updated version as part of our broader communications strategy and plan to distribute at our October 2016 Farm to Cafeteria conference and Buyer trade show.
PROJECT GOAL 2, OBJECTIVE A	
Activity 1: Conduct a min. of 3 workshops or meetings in partnership w/ other agricultural service providers or distributors to educate specialty crop producers about requirements for sales to FSMCs.	Complete - Three workshops/meetings have been conducted. Meeting 1 was held on April 9, 2014 in conjunction with CQP growers/ distributor (Costa Produce) whom currently sell to Whitson's and Chartwells as part of Harvest of the Month. Meeting 2 was held in February 2014 with Roch's Produce, E. Cecchi Farms & Czajkowski Farms to discuss requirements for sales to Sodexo. Workshop 3 was held in conjunction with our January 13, 2015 Farm to Cafeteria conference and Buyer trade show.
PROJECT GOAL 2, OBJECTIVE B	
Activity 1: Provide individual or group technical assistance to a	Complete -- Provided technical assistance (TA) to all Whitson's Food Service account managers (23 districts) at annual Whitson's meeting on 8/14/14. Provided TA to all 34

<p>min. of 12 FSMC institutional accounts in central and southeastern Mass. to facilitate increased procurement of specialty crops.</p>	<p>Chartwell’s k-12 districts participating in HOTM. Both Chartwell’s and Whitson’s have districts located in central & southeastern MA which is specifically targeted as part of this project. Ongoing technical assistance is being provided to 5 Hampden County higher ed. institutions (3 Aramark & 2 Sodexo accounts) as they meet collectively throughout the fall and winter. Attended annual MA School Nutrition Assoc. to provide technical assistance to account managers of food service management companies.</p>
<p>Activity 2: Provide individual or group technical assistance to a min. of 10 specialty crop producers to connect them with potential FSMC customers or distributors.</p>	<p>Complete - Ongoing technical assistance has been provided to four farms in Hampden, Hampshire & Worcester county (Lanni Orchards, Outlook Farm, E.Cecchi Farms & Czajkowski Farms) to connect them to Springfield Sodexo account via Roch’s Produce distributors. Technical assistance was also provided to Honey Pot Farm and Stasinios Farm to connect them to the Franklin County CDC processing center to service Chartwell accounts with local frozen product. Outlook Farm was also provided technical assistance to connect them with distributors serving management company accounts. Additional group technical assistance was provided to specialty crops producers at the annual Mass Fruit Growers meeting in 12/2013 and New England Veg and Berry Growers meeting 12/2013, Mass Farm Bureau meeting (12/2013) and the Beginning Farmer network (3/2014)</p>
<p>PROJECT GOAL 3, OBJECTIVE A</p>	
<p>Activity 1: Survey min. 5 distributors serving central and southeastern Mass. to identify their methods for local</p>	<p>Complete: Survey questions developed and distributors were surveyed for their methods for local product tracking and reporting. These distributors surveyed were: Costa, Sid Wainer, Rochs, Farm Fresh RI, Fresh Point, and Red Tomato.</p>

<p>product tracking and reporting.</p>	
<p>Activity 2: Summarize best practices into an outreach tool and share with a min. of 5 distribution companies and/or aggregators.</p>	<p>Amended and Completed - Based on our data collected through the six distributors surveyed we did not discover ‘best practices’ of tracking and reporting local products by distributors carrying both local and non-local products. The two distributors only carrying local products may have model tracking practices but they are not applicable to the broader group of distributors serving institutions here in Massachusetts. We continue to work with regional partners to try and identify best practices employed by distributors in other parts of New England.</p>
<p>Activity 3: Develop a toolkit for FSMC staff to request improved tracking and reporting of local products and distribute to a min. of 5 FSMC accounts.</p>	<p>Amended and Completed - Toolkit created and includes introductory letter, suggested questions for meetings with distributors about local procurement; tips for using a vendor contract to source local produce, and a listing of Mass. produce vendors with data about their local procurement offerings and tracking tools. Distributed directly to Sodexo and made available to other FSMC staff attending our 2015 statewide conference (which included K-12 and college accounts).</p>
<p>PROJECT GOAL 3, OBJECTIVE B</p>	
<p>Activity 1: Work with distributors and aggregators to present opportunities and best practices to connect with specialty crop growers, focusing on those that grow HOTM crops.</p>	<p>Completed - Held first buyer tradeshow in February 2014 with seven produce distributors and over 40 specialty crop farmers in attendance. Second tradeshow was held in conjunction with our 2015 Farm to Cafeteria Conference in January 2015 and included 7 distributors/aggregators and 32 farmers. Outreach to distributors and farmers were completed following each workshop/tradeshow.</p>

PROJECT GOAL 4, OBJECTIVE A

<p>Activity 1: Identify 8 local HOTM specialty crops, based on expected availability, institutional suitability, and producer profitability.</p>	<p>Completed: Working from the previous year’s success and consulting specialty crops growers, distributors and food service staff, 10 local specialty crops were identified for the HOTM campaign. These included: September – tomatoes October – pears November – kale December – carrots January – apples February – butternut squash April – Potatoes June – Strawberries July – Cucumbers August – Peaches</p>
<p>Activity 2: Design HOTM materials. Print sample poster sets and digital files for download by FSMCs.</p>	<p>Complete - Full development of SY 2014-2015 Harvest of the Month Campaign including: design of all campaign materials- posters, trading cards, and stickers; Development of participation agreement for institutions; Outreach and promotion of campaign to all K12 public schools, independent schools and colleges/universities; developed Harvest of the Month in Hospitals campaign and promoting this campaign through the Eastern Mass. and Greater Mass. Working Groups in partnership with Healthcare Without Harm (3 hospitals participating)</p>
<p>Activity 3: Conduct HOTM outreach to min. 2 specialty crop trade associations to enable farmers to anticipate increased demand and plan for this market.</p>	<p>Completed - HOTM outreach was conducted to specialty crop producers at the Mass Fruit growers at their annual meeting in 12/2013 and at the MA Farm Bureau annual meetings in 12/2013 and 12/2014.</p>
<p>Activity 4: Conduct outreach to FSMCs to promote HOTM and identify specialty crop growers to supply HOTM crops.</p>	<p>Completed: Targeted promotion to two Food Service Management Companies, Whitsons and Chartwells both of which have committed all of their Massachusetts K-12 accounts to participate in the next school year; Outreach conducted to Sodexo in Springfield which resulted in HOTM participation again in the 13/14 school year. Outreach conducted to Chartwells Higher Education division resulting</p>

	<p>in adoption of HOTM by select institutions (UMass -Dartmouth and Northeastern).</p>
<p>Activity 5: Evaluate 2012-13 HOTM participation and impact.</p>	<p>Complete - Surveyed participants - The original target of at least 33% of school districts having awareness of HOTM and at least 25% participating was exceeded. 117 districts, or 36.2% of Massachusetts public schools, participated in the inaugural year of HOTM. Of participants who responded to our evaluation, over 90% actively promoted HOTM crops to students and staff through the use of HOTM posters. Over 90% served local tomatoes, pears, and apples. Local kale was served by 65% and local carrots and butternut served by 74%. 10.3% reported a definite increase on local specialty crop purchases over the previous school year</p>

b) If the outcomes measured are long term, summarize the progress that has been made toward their achievement;

Increased procurement of Mass. specialty crops by food service management companies operating in Massachusetts has significant potential to contribute to the long-term viability of Massachusetts farmers. While the focus of this project was on specific geographic areas in Massachusetts, by working to help farmers gain access to food service management company customers, farmers are now poised to reach a much larger number of institutions across the state and the region. Entrance into the supply chain for these companies provides farmers access to a huge potential market.

An additional long term benefit of our work is its positive impact on child health and nutrition. Research demonstrates that students will eat more fruits and vegetables when local products are served. Farm to school programs have improved students’ knowledge, attitudes and behaviors towards healthy, local foods, and early exposure to healthy foods in school positively impacts student eating habits. These are behaviors that may stick with children throughout their lives not only leading to improved health but also leading them to support local farmers once they become food purchasers as adults. The growth of our Harvest of the Month campaign means that more students were served health, local fruits and vegetables. The number of participating districts rose and the program expanded to all 12 months. A higher portion of food service directors in the state now have the tools to source and promote locally grown specialty crops in their cafeterias and we are closer to

our goal of all students in Massachusetts having access to locally grown foods in their school meal programs.

c) A comparison of actual accomplishments with the goals established for the grant period;

d) Illustration of baseline data that has been gathered to date and the progress towards achieving set targets;

Project Goal 1: “Grow” our FSMC relationships as we better understand the FSMC “landscape,” parameters, and detailed requirements of the FSMC’s preferred specialty crop vendors/distributors.

The target set for Project Goal 1 was to have at least one FSMC demonstrate a measureable increase in its purchasing of locally grown specialty crops for their accounts over the course of this project.

Throughout the course of this grant project we were able to influence and assist two FSMCs to increase the amount of specialty crops they sourced from local producers. Through our work with higher education institutions we aided Chartwells to newly contract with two local-only distributors to provide produce to all MA college accounts, including UMASS-Dartmouth, Worcester State, and Worcester Polytechnic Institute. These new contracts resulted in measurable increases in the amount of locally grown specialty crops served in the cafeterias of these three institutions.

In addition to our work with Chartwells, we were able to work closely with Sodexo in helping them identify sources for locally grown specialty crops to purchase and serve in their K-12 Springfield school cafeterias. With 63 cafeterias serving approximately 21,000 meals each day, identifying and purchasing locally produced specialty crops has resulted in a substantial increase in their local purchasing percentage-- and in turn resulted in positive financial impact for local specialty crop producers. To further strengthen the connection to the local specialty crop producers growing their produce, all Sodexo K-12 accounts in Massachusetts (Springfield, Holyoke, and Fitchburg) have adopted the same model and are calling their program an “Adopt a Farm” program. We have helped Sodexo and their approved vendor to identify appropriate specialty crop producers, which supply their produce, but also maintain an ongoing relationship with the district to collaborate on educational and marketing opportunities, as well as planning for the future seasons.

Project Goal 2: Enhance Mass. specialty crop producers’ competitiveness by providing individual or group training – including for urban farmers – about institutional market demand, FSMC procurement requirements, and opportunities.

Performance Measure: Number of farms attending training workshops on selling to institutions and pre and post workshop self-evaluations.

The target set for Project Goal 2 was to provide training workshops for specialty crop producers on the requirements of and opportunities for sales to institutions with FSMCs and have at least 50% of specialty crop producers attending workshops or trainings to report an increased knowledge of these aspects. Through the trainings provided over the course of this project we were able to reach 57 specialty crop producers with the requirements and opportunities around FSMC institutional accounts. Evaluations were conducted at the provided trainings and of the specialty crop producers attending these trainings more than 50% of farmers reported they “increased their knowledge of the farm to institutional market” and will likely “make changes in their marketing plan” and “expand their farm to institutional marketing” as a result of the workshop presentation, which included information specifically on accessing FSMC institutional accounts.

Project Goal 3: Provide outreach and assistance for specialty crops distribution companies serving central and southeastern Mass., especially those with an interest in preferentially purchasing locally grown specialty crops for re-sale to institutional cafeterias.

The original target set for Project Goal 3 was to have a minimum of three specialty crop distribution companies servicing Sodexo, Aramark and Compass to have received training in sourcing Massachusetts grown specialty crops and have the distributors identify one new specialty crop producer from which they purchase from. Throughout the course of this project Mass Farm to School staff were able to work with and provide training to four specialty crop distribution companies on sourcing locally produced specialty crops and helped them identify new producer sources to purchase from.

We worked with Rochs Fresh Foods and helped them explore the Massachusetts landscape of specialty crop producers and aided them in identifying three new specialty crop producers which they have started purchasing from to service their Sodexo K-12 accounts in Massachusetts and throughout New England. In addition, we worked with Farm Fresh Rhode Island and Red Tomato to expand their reach with specialty crop producers in Massachusetts to serve their higher education Chartwells accounts in Massachusetts (UMass Dartmouth, Worcester State, and Worcester Polytechnic Institute).

In conjunction with our Harvest of the Month campaign we were able to provide assistance and training to Costa Fresh Produce to connect them with specialty crop producers able to provide them with Harvest of the Month featured crops in order to provide their K-12 accounts (including all 23 districts contracted with Whitsons Culinary Group in Massachusetts) and all of Aramark’s higher education accounts (also participating in our Harvest of the Month program).

Project Goal 4: Use our new Mass. Harvest of the Month (HOTM) campaign as a tool to encourage and increase FSMCs’ interest in purchasing and promoting locally grown specialty crops in their cafeterias and dining services.

Through our Harvest of the Month campaign, it was the original goal to have at least one corporate FSMC adopt the HOTM campaign for all of its accounts in within central and southeastern Massachusetts.

We were fortunate enough to work with two corporate FMSCs on a statewide basis, Whitsons Culinary Group and Chartwells to adopt the HOTM campaign at all of their K-12 districts across Massachusetts. This resulted in 47 K-12 districts participating in HOTM and purchasing, serving and featuring specialty crops throughout the entire school year. In addition to these FSMC districts we had institutional accounts managed by Sodexo and Aramark also participate in our HOTM campaign, to make up a total of 125 K-12 school districts, 2 hospitals and 6 colleges.

Chartwells School Districts	# of Cafeterias	Average # of lunches served per day
Amesbury	4	1200
Ashburnham Westminster Regional	5	1050
Bishop Fenwick	1	500
Bourne Public Schools	4	1200
Bridgewater-Raynham	7	2200
Brockton Public schools	20	13
Devereux	1	220
Duxbury Public Schools	4	850

Granby Public Schools	3	600
Holbrook Public Schools	3	800
Hull	3	450
Leominster Public	7	3500
Martha's Vineyard Regional HS	1	300
Medway Public Schools	4	900
Newburyport	3	n/a
Pentucket Regional	6	1200
Randolph Public Schools	6	2100
Rockland Public Schools	5	1200
Sacred Heart	2	350
Seekonk Public Schools	4	700
Somerset Berkley Regional	5	n/a
Swansea	6	1000
Westborough Schools	6	1200
Winchendon Public Schools	3	600

Whitsons School Districts	# of cafeterias	Average # of lunches served per day
Amherst Public Schools	5	1200
Attleboro Public Schools	9	4000
Boxford	n/a	n/a
Easton Public Schools	n/a	n/a
Fall River Public Schools	n/a	n/a
Franklin School District	n/a	n/a
Gardner School Committee	7	2000
Grafton	n/a	n/a
Haverhill Public Schools	17	4280
Hopkinton Public Schools	n/a	n/a
Hudson Public Schools	n/a	n/a
Lexington Public Schools	n/a	n/a

Longmeadow Public Schools	n/a	n/a
Newton	n/a	n/a
North Middlesex Reg'l	6	1320
Sandwich School District	4	1050
Sudbury Schools	5	n/a
Tyngsborough School Dept	3	700
Wellesley Public Schools	2	700
Winchester Public Schools	n/a	1468

e) *Summarize the major successful outcomes of the project in quantifiable terms.*

This project was successful at raising awareness of farm to school across the state and further engaging new FSMC institutions and specialty crop distributors in local procurement. In addition, we successfully engaged a broad audience of specialty crop producers, increasing knowledge of how to access the FSMC institutional market.

- **We successfully engaged two corporate food service management companies in participating in our Harvest of the Month campaign by signing up all of their Massachusetts k-12 districts -- resulting in 47 K-12 districts purchasing and featuring local specialty crops through the entire school year.**
- **Through training and technical assistance we aided two new FSMCs in identifying local sources for their specialty crop purchases which resulted in Springfield Public Schools (with 63 cafeterias and approximately 21,000 meals served per day) and three higher education institutions sourcing locally produced specialty crops and**

bringing new markets to at least 4 specialty crop producers in Massachusetts and two locally sourced Massachusetts distributors.

- The three successful farmer workshops/trainings held throughout the state adequately increased farmer knowledge of FSMC institutional sales and the growing opportunities of FSMC markets across the region. The updated farmer training materials used to conduct these group trainings were made available to all attendees and resulted in increased follow up, technical assistance requests from area specialty crops producers.
- Successful technical assistance and training was provided to four specialty crops distributors (Costa, Rochs, Farm Fresh Rhode Island, and Red Tomato) in accessing FSMC institutional accounts and sourcing locally produced specialty crops from Massachusetts producers. These trainings resulted in new markets and long term sustainable sales outlets for specialty crop producers to FSMC accounts, as well as to other institutional accounts served by these four distributors.

Beneficiaries

a) A description of the groups and other operations that benefited from the completion of this project's accomplishments; and

b) State the number of beneficiaries affected by the project's accomplishments and / or potential economic impact of the project.

This project benefitted specialty crop growers in Massachusetts, farm service providers, and institutional food service providers and their customers (students and hospital staff and patients). Massachusetts farmers learned about the requirements for accessing the sector of the institutional market governed by food service management contracts. Massachusetts farm service providers gained more knowledge about the unique requirements of different aspects of the institutional market and are now better prepared to help their farm clients in evaluating this sales channel. Food service directors benefitted from training on how to best access locally grown specialty crops within the procurement parameters of their food service management company. Finally, students are the long term beneficiaries of this project. As more farmers gain the skills to access this market and food service management companies become more adept at sourcing locally grown specialty crops, access to these health foods for students will increase.

- 121 public k-12 school districts, 10 independent and preschools, four colleges and two hospitals in Massachusetts were direct beneficiaries through their participation in the HOTM program.
- Each month over 88% of responding participants in HOTM reported purchasing the locally grown specialty crops to feature on their menus.

- **Increased awareness of institutional FSMC sales opportunities for over 55 specialty crop producers through multiple venues including MDAR, Mass Farm Bureau, our statewide conference and individual technical assistance.**
- **Increased awareness of FSMC vendor requirements, and the specialty crop producer landscape amongst 6 specialty crop distributors serving institutions.**

Lessons Learned:

We undertook this project because institutional food purchasing has great potential to impact the regional agricultural economy, and particularly the specialty crop industry. Due to their market size and annual expenditures, changes in institutional purchasing can bring significant new income to Massachusetts growers. Food Service Management Companies (FSMCs), with many institutions run by the same company, provide a great opportunity to impact the supply chain at a higher level than at the individual institution. The research conducted in this product provided a great overview of the food service management company landscape in Massachusetts and the vendor contracts and vendor requirements that will better position Massachusetts farmers to access this market. The research is summarized below with a concluding paragraph on the key strategies for Massachusetts farmers to access the food service management company market.

About Food Service Management Companies

Food service management companies (FSMCs) are commercial enterprises or non-profit organizations that contract with institutions to manage their food service operations. Food service management companies provide their institutional clients with a wide array of services that may include any combination of the following: recruitment and management of qualified leadership staff, financial management systems, development of the menu; food procurement; negotiating food prices with suppliers and manufacturers; maintaining retail space; providing capital for infrastructure improvement; managing staff; and maintaining regulatory compliance. Some FSMCs serve all institutional sectors, while others are focused on a specific sector such as education or health care.

FSMC in Massachusetts' K-12 Public Schools

In Massachusetts there are approximately 395 school districts (SFAs) which serve as the school food authority (SFA) to administer the National School Lunch Program. This number includes both multi-school districts and stand -alone charter schools or special education programs. Of these 395, there are 79 that have contracted with a food service management company (FSMC) to operate the lunch program, representing approximately 20% of districts. (Data from SY13-14)

The contracts terms vary somewhat between districts and companies, but the most common is a base year contract which allows for four 1-year extensions. While Compass Group, Aramark and Sodexo are considered the “Big 3” FSMC, in MA, the three companies most represented in the K-12 sector are Chartwells (Compass Group), Aramark and Whitsons. Whitsons maintains 24 of the 79 contracts and their share of the market has grown considerably in recent years. However, if one looks at the percent of students served by each company, the numbers may look quite different as Sodexo, with only 4 accounts, is present in some of the state’s largest cities – Springfield (25,645 students), Holyoke (5,574 students) and Fitchburg (5,049 students), with a combined student enrollment of 36,268 and above average rates of participation in the meal program with 94% of Springfield students, 99% of Holyoke students, and 85% of Fitchburg students qualifying for free and reduced price meals.

Accounts by Company

- Aramark = 15
- Chartwells = 29
- Whitsons = 24
- Sodexo = 4
- Other = 7

FSMC in Central & Southeastern Massachusetts’ Colleges

While the majority of K-12 schools in Massachusetts remain self-operating, the reverse is true for Massachusetts colleges and universities. Just 16% of reporting colleges are self-operating. While there is much overlap of the companies operating in K-12 and college accounts, the prevalence of certain companies differs, with Sodexo having a much great presence in the college market than K-12.

Accounts in Greater Boston (64% response rate)

- Self-Operating=9
- Aramark = 10
- Chartwells = 7
- Bon Appetit = 4
- Sodexo = 12
- Other = 4

Accounts outside of Boston (92% response rate)

- **Self-Operating=12**
- **Aramark = 8**
- **Chartwells = 10**
- **Bon Appetit = 1**
- **Sodexo = 12**
- **Fitz-Vogt = 1**
- **Other = 0**

FSMC in Central & Southeastern Hospitals

The vast majority of nutritional services at medical centers here in Massachusetts are contracted to a FSMCS. These FSMCs hold contracts for cafeteria services as well as patient nutritional services. Although the parent companies of these FSMCs are the same as the FSMCs that manage K-12 and college accounts, they largely work in separate divisions and have very little crossover between institutional categories. Unless operating independently, the medical centers here in Massachusetts contract with one of the three FSMCs serving hospitals in the state -- Aramark, Sodexo, Unidine and Morrisons. For more details refer to Attachment 1—a Hospital Management list as compiled through our research.

Procurement Practices by FSMC accounts in MA

With minimal exception, FSMC strategies for local procurement are implemented by the primary produce distributors with which they contract.

FSMC	Primary Produce Distributor(s)
K-12 Public Schools	
Aramark	Sid Wainer & Sons
Chartwells	Sid Wainer & Sons (E. Mass); Fresh Point (W.Mass)
Sodexo	Rochs Produce
Whitsons	Costa Fruit & Produce
Colleges & Universities	
Aramark	Costa Fruit & Produce

Compass Group – Chartwells & Bon Appetit	Sid Wainer & Sons, Secondary distributors - Farm Fresh RI, Red Tomato
Sodexo	Depends on location - includes Baldor and Costa
Hospitals	
Sodexo	Sysco, US Foods, Premier
Morrison	Foodbuy, Sysco

Distributors' Vendor Requirements

A common obstacle encountered by many Mass. growers is the insurance liability and/or food safety certifications required by different vendors. While this criterion is changing rapidly due to increased awareness of and concern for food safety, the following presents the primary requirements to be a vendor of the key produce distributors serving institutions with managed food service operations.

Vendor	Liability	Food Safety	Seeking new farmers?
Costa	General liability insurance	GAP preferred, not required; CQP accepted	Yes
Sid Wainer	not provided	Have own food safety checklist and also accepts CQP	Yes
Farm Fresh Rhode Island	\$ 1 million	Does not require GAP	Yes
Baldor	\$ 5 Million	Have own food safety checklist and require documentation of 3rd party audit and HAACP	Yes

Rochs	not provided	GAP currently required (or working towards GAP acceptable); CQP is being considered	Yes
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Other key criteria for farmers to be able to access distributors include trucking and logistics such as whether the company backhauls product or the farmer must deliver to the warehouse, delivery minimums, fixed pricing and/or pre-season contracts etc.

Conclusion

- **FSMC primarily source produce through primary produce vendors. The simplest way to sell to an institution is through their approved produce vendor.**
- **While some vendors require GAP, Commonwealth Quality is increasingly accepted as a food safety certification for selling to Massachusetts-based produce distributors.**
- **The process for becoming an approved vendor to a food service management company can take a long time and typically requires a third party audit.**

Attachment 1

HEALTH CARE SYSTEM	CITY	FSMC
Steward Health System		
<i>Good Samaritan</i>	Brockton	Sodexo
<i>St. Anne's Hospital</i>	Fall River	Sodexo
<i>Norwood Hospital</i>	Norwood	Sodexo
<i>Carney Hospital</i>	Dorchester	Sodexo
<i>Holy Family Hospital</i>	Methuen	Sodexo

		Sodexo
<i>St. Elizabeth's Medical Center</i>	Boston	Sodexo
Nashoba Valley Hospital		Sodexo
Quincy Hospital	Quincy	Sodexo
Morton Hospital	Tauton	Sodexo
Norwood Hospital	Norwood	Sodexo
Merrimack Valley Hospital	Haverhill	Sodexo
Tenet Health/ Metro West Medical Center		
<i>Leonard Morse Hospital</i>	Natick	Morrison
<i>Framingham Union Hospital</i>	Framingham	Morrison
		Morrison
<i>St. Vincent's Hospital</i>	Worcester	Morrison
<i>Tufts New England Medical Center</i>	Boston	Aramark
Partners Health Care System		
<i>Faulkner Hospital</i>	Boston	Sodexo
<i>Mass General Hospital</i>	Boston	Independent
Spaulding - Cape Cod		Sodexo
<i>McLean Hospital</i>		Sodexo
<i>Martha's Vineyard Hospital</i>	Oak Bluffs	Sodexo
<i>Nantucket Cottage Hospital</i>	Nantucket	
Cape Cod Health Care		

<i>Cape Cod Hospital</i>	Hyannis	Sodexo
<i>Falmouth Hospital</i>	Falmouth	Sodexo
Southcoast Health System		
<i>Saint Luke's Hospital</i>	New Bedford	Sodexo
<i>Tobey Hospital</i>	Wareham	Sodexo
<i>Charlton Memorial Hospital</i>	Fall River	Sodexo
Baystate Health System		
<i>Baystate Health</i>	Springfield	Independent
<i>Baystate Medical Center Children's Hospital</i>	Springfield	Independent
<i>Franklin County Hospital</i>	Greenfield	Independent
<i>Mary Lane Hospital</i>	Ware	Independent
<i>Wing Memorial Hospital</i>	Palmer	Independent
Beth Israel Deaconess Medical Center		
BIDMC Plymouth (Jordan Hospital)	Plymouth	Sodexo
<i>BIDMC Needham</i>		Sodexo
<i>Milton Hospital</i>	Milton	Sodexo
<i>New England Sinai Hospital & Rehab Center</i>	Stoughton	Sodexo
MA Dept of Public Health Bureau of Hospitals		
<i>Mass Hospital School</i>	Canton	Aramark
<i>Western Mass Hospital</i>		Aramark
<i>Western Mass Hospital</i>	Westfield	
<i>UMass Hospital System</i>		
		Sodexo
<i>UMass Memorial Hospital</i>		

<i>Health Alliance Hospital</i>	Leominster	Sodexo
<i>Marlborough Hospital</i>	Marlborough	Morrison
<i>Heywood Hospital</i>	Gardner	Independent
<i>Athol Memorial Hospital</i>	Athol	Independent
<i>Braintree Rehab Hospital</i>	Braintree	
<i>Bridgewater State Hospital</i>	Bridgewater	
<i>Brockton Hospital (Signature Healthcare)</i>	Brockton	Sodexo
<i>Clinton Hospital</i>	Clinton	
<i>Emerson Hospital</i>	Concord	Sodexo
<i>Edith Nourse Rogers Memorial Veterans Hospital</i>	Bedford	
<i>Fairlawn Rehab Hospital</i>	Worcester	
<i>Fuller Hospital</i>	South Attleboro	
<i>Harrington Memorial Hospital</i>	Southbridge	Aramark
<i>Holyoke Hospital</i>	Holyoke	Unidine
<i>Hubbard Regional Hospital</i>	Webster	
<i>Mercy Medical Center</i>	Springfield	Independent
Milford Regional Medical Center	Milford	
<i>Noble Hospital</i>	Westfield	Morrison
<i>Sturdy Memorial Hospital</i>	Attleboro	Independent

<i>Soldiers' Home in Holyoke</i>	Holyoke	
<i>South Shore Hospital</i>	Weymouth	

Organization:

Ascentria Community Services (Formally Lutheran Social Services)

Project Title:

Advanced Farmer Training for New Americans seeking Specialty Crop Markets in Central and Western Massachusetts

Final Report:

FY13 12-25-B-1676

Project Summary

“Advanced Farmer Training for New Americans seeking Specialty Crop Markets in Central and Western Massachusetts” was proposed by New Lands Farm, a program of Ascentria Care Alliance, to support 50 socially-disadvantaged beginning farmers with advanced training and mentoring on crop planning, sustainable production, and marketing as to gain leverage in the marketplace for their specialty crops. We found that many new American farmers lacked working knowledge of soil management, organic pest control, and diversified crop planning. These farmers have less leverage in the marketplace due to this gap in resources. To address these needs, we created a more advanced and curtailed training approach to assist farmers.

This project is timely and important because the socially disadvantaged, beginning farmers we support represent future farmers. With help, these future farmers have the ability to supply the produce demands of their local communities. Overall, farmers from diverse backgrounds can craft a new successful and competitive customer base for specialty crops.

Project Approach

The intended goal of this project was to enable farmer participants to improve their skills and become more competitive in the marketplace. The objectives created to reach our goal are as follows: Train New American farmers in crop planning & sustainable crop production techniques for specialty crops and; Mentor farmers through diverse marketing avenues for specialty crops in Massachusetts.

Most of the activities outlined in the grant proposal were to be conducted through one-on-one technical assistance or in a group setting (classroom, field, and markets) with farmer participants. Staff created and taught a winter curriculum to reach the areas that the farmers exhibited the most weakness in: crop planning, ordering seeds, soil health, pest id and management, and marketing. Staff assisted farmers to take skills assessments, create crop plans, learn and choose marketing options, organize a Community Supported Agriculture (CSA) program, and order seeds. During the farm season New Lands Farm staff facilitated trainings around soil testing and soil amendments, proper walk-behind tractor use, food safety and post-harvest handling, and provided field trips to other farms. Beyond classes, farmers had access to staff during most work days, at group meetings, and weekly field walks to address any production problems. Staff worked closely with farmers to execute crop plans, add the correct soil amendments, trouble shoot pest problems, and plan when and how to harvest their crops for sale. Staff worked side by side with farmers during post-harvest in the wash area in order to ensure quality control, and proper harvest record keeping. Staff educated farmers on marketing mechanics and customer relations during all marketing events including CSA, farmers' market, farm stand, and wholesale.

The following is list of activities completed in order to achieve the performance goals identified in the grant proposal:

- Created participant qualification guidelines for new Advanced Farming Course.**
- Developed training course schedule.**
- Advertised for and enrolled participants in course.**
- Created crop planning and sustainable crop production curriculum suited for our more advanced farmer participants.**
- Completed skills self-assessment with participants.**
- Provided winter training course to address knowledge lacking in crop planning and crop production. A total of 47 farmers were enrolled in this training course and we completed 40 hours of trainings (see Table 1).**
- Facilitated the creation of individual farmer crop planning and assisted with ordering seeds, plants, and supplies to successfully execute crop plans.**
- Created and distributed surveys to farmers for course feedback as part of data collection plan.**
- Allotted land on community farm sites to 51 participating farmers.**
- Facilitated trainings around soil testing and soil amendments, proper walk-behind tractor use, food safety and post-harvest handling, and provided field trips to other farms, a total of 10 hours of training (see Table 1).**
- Offered technical assistance to 51 farmers on a daily basis, at group meetings, and weekly field walks to address any production problems. Estimated 575 hours of assistance.**

- Staff worked closely with farmers to execute crop plans, add the correct soil amendments, trouble shoot pest problems, and plan when and how to harvest their crops for market.
- Created standard harvest and sales record sheets for farmer use and as part of monitoring & data collection plan.
- Staff worked side by side with farmers during post-harvest in the wash area in order to ensure quality control, and proper harvest record keeping.
- Staff educated 51 farmers on marketing mechanics and customer relations. Present during all marketing events including CSA, farmers' market, farm stand, and wholesale. Estimated total of 1,152 hours of assistance.
- Collected data through farmer sales, one-on-one interviews, and skill assessment work
- Completed skills self-assessment with participants as performance measure and as part of data collection plan.
- Formulated and conducted one-on-one exit interviews with farmer participants as part of monitoring and data collection plan.
- Compiled all information in data collection plan and created report.

DATE	CLASS	SITE
1/06/2014	Profit and Market Overview	Western
2/8/2014	CISA Forest Park Farmers Market Field Trip	Western
2/10/2014	Seasons & Planting	Western
2/24/2014	CSA Crop Selection	Western
2/17/2014	Crop Planning	Western
2/20/2014	Seasons and Crop Planning	Central
2/27/2014	CSA Crop Planning and Crop Distributions	Central
3/03/2014	CSA & Seed Order	Western
3/6/2014	Ordering Seeds	Central
3/10/2014	Soil Health	Western
3/13/2014	Final Crop Plans	Central
3/17/2014	Pest Management	Western
3/20/2014	Soil Health	Central
3/27/2014	Pest Id and Management	Central
3/31/2014	Seed Starting	Western
4/7/2014	Finance & Loans	Western
4/10/2014	Soil Testing Workshop	Central
5/06/2014	BCS Review	Central
6/09/2014	Wash Station Training	Central
6/12/2014	Many Hands Farm Field Trip	Central

Originally, our intent was to design classes that taught farmers in two separate groups, those who are advanced and those at a beginning level. This did not prove beneficial for the

beginning farmers. Therefore, the classes served all interested farmers but were oriented to the advanced farmers and their skill deficiencies. The Worcester location did several classes per week to separate language group and skill level as much as possible.

Goals and Outcomes Achieve

The addition of an Advanced Farmer Training Course had several measurable outcomes, the first being an increase in farmer skill sets, specifically as it pertains to crop planning and sustainable production techniques. The second measurable outcome of our proposed project is an increase in farmer economic activity. Table 2 shows the targets we had set and what has been achieved.

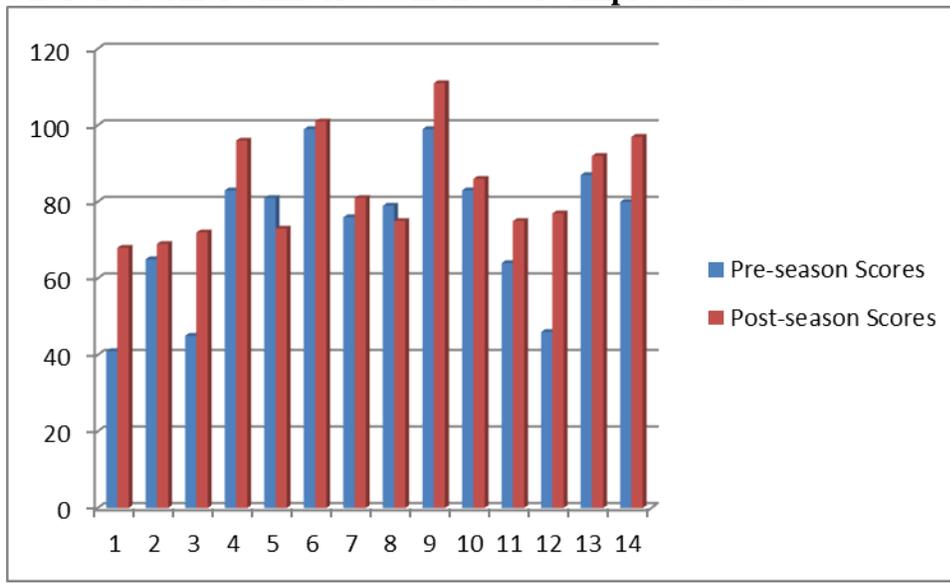
Target	Achieved	Notes/Summation
75% increase in farmer skills assessment scores	86% of assessed farmers improved skills assessment scores. 100% of farmers improved in at least one skill area.	Farmers on average improved in 13 out of 49 areas tested. Largest increase by category seen in Soil Preparation, Pest Management, and Harvest/Post Harvest Handling.
Farmers increase individual revenue by 40%	17 farmers increased sales > 40% 5 farmers increased sales 1- 39%	47 % of farmers hit target 14% missed target, but still increased sales.
Expansion of marketing avenues (2 new or additional)	7 new marketing avenues established for farmers	1 farmers' market, 5 restaurants, 1 distributor and 1 farm stand.

One performance measure we used is a farmer skills assessment (self-assessment) completed by farmers during the preseason and in post farming season. Farmers self-assessed at the beginning of the grant period prior to classes giving us a baseline. Once they fulfilled the Advanced Farmer Training and completed another season of growing and marketing, participants self-assessed again. With this we are able to comprehensively chart the progression of farmer participants. We decided an appropriate target would be for 75% of the farmers to increase scores on the self-assessment, specifically in the categories pertaining to crop planning and sustainable production techniques.

Thus far, fourteen farmers have completed both the spring (preseason) and fall (postseason) skills assessment in 2014. A translator was made available for each farmer needing language support. Forty-nine questions were held constant over the two assessments. Of the 14 farmers assessed, we have seen that 12 farmers increased overall scores or 86% of farmers participating (see chart 1). We have attributed the two decreases in scores to miscommunication in translation. All farmers improved in at least one skill

area, and on average improved in 13 out of 49 areas. Post-season skills assessments are continuing to be conducted in November and December after the end of the season. As we continue collecting and compiling data, we expect to see similar results with the other farmers that are being assessed.

Chart 1: Farmer Skills Assessment Score Improvements



The second measurable outcome of our proposed project is an increase in farmer economic activity. Performance measures include: the number of marketing options being utilized by participants, and participants’ sales. Baselines were gathered from the sales records of each farmer participant from the previous year’s marketing season. We set a target that advanced farmer participants would increase individual revenue by 40% (based on previous year), and would expand into two new or additional market avenues (based on previous years).

Altogether, 17 farmers increased sales by 40% or more and five farmers increased sales by 1- 39%; yielding a total of 47 % of farmers hitting target and 14% missing target but still increasing sales. 15 farmers had their first year of sales in 2014 and were not part of the advanced target group. The remaining 14 farmers made a profit but did unfortunately decrease sales from the previous year. In many cases, this was due to changes in work schedule, family status or difficulty finding time to farm and attend trainings. Each farm site saw an increase in median farmer income.

The New Lands Farm program participants in total increased sales by 39% from 2013 to 2014 (see Chart 2). The largest increase being seen in CSA and wholesale, specifically in mobile market sales (see Chart 3). Farmers expanded selling at 5 new restaurants, created a new farm stand and a new farmers’ market in West Springfield, and Worcester started selling to a new local distributor. Chart 3 illustrates the expansion in these marketing categories as a comparison of sales by market category from 2013 to 2014.

Chart 2: Total Farm Sales for 2013 and 2014

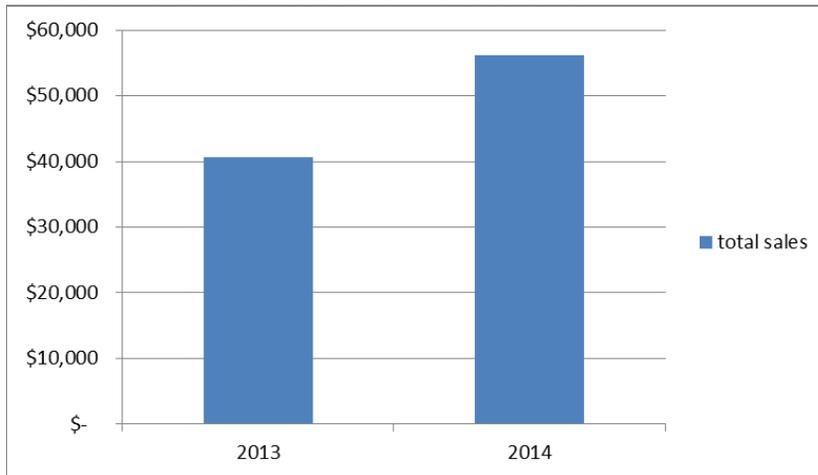
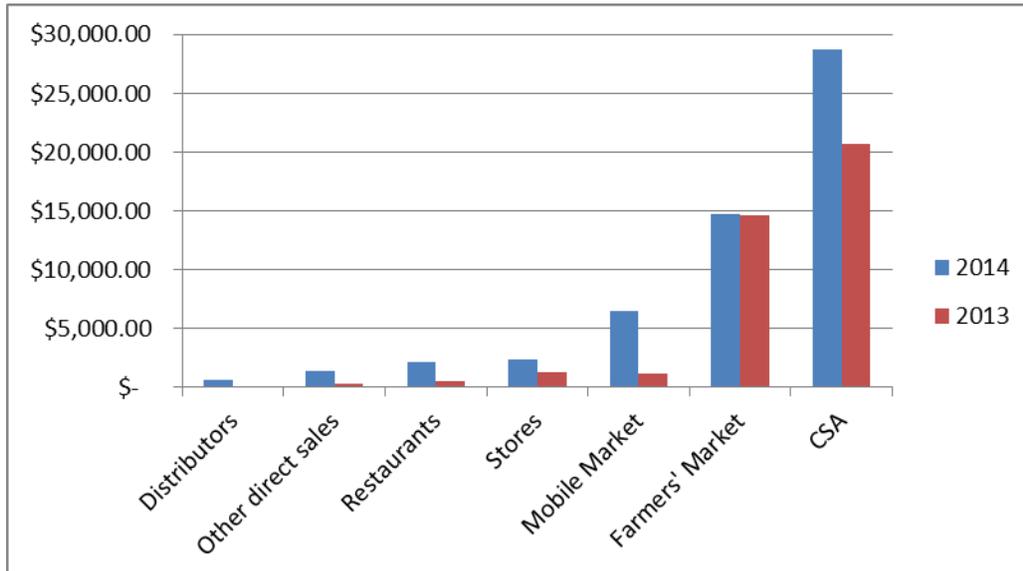


Chart 3: Comparison of Total Farm Sales by Category 2013-2014



Beneficiaries

Most directly benefited were the farmers who are involved in the New Lands Farm program. Between both the Central and Western Massachusetts sites, we educated and assisted 51 socially-disadvantaged farmers and their family members from diverse genders, races, cultures, English competency levels, and financial backgrounds. Farmer countries of origin vary from Bhutan, Burundi, Kenya, Vietnam and Poland. Most have been new residents in the United States for one to ten years. The farmers cultivate individual plots between 1/8 to 1 acre in size, totaling about 8 acres in 2014.

Additionally, due to improved crop quality and quantity we were able to impact more buyers and consumers this season than any other. The New Lands CSA reached a combined 66 members. In total, we believe that we reached over 11,460 retail consumers through farmers markets, CSA, and mobile markets in the 2014 farming season (see table

3). More than 50% of our direct sale customers receive some form of subsidies to purchase fresh food, such as SNAP and WIC farmers’ market coupons. This data reinforces that the consumer base New Lands farmers are serving are a diverse, low-income and urban customers. Of particular interest is the farmers’ ability to provide ethnically significant, specialty crops at the farmers markets to a population of consumers most otherwise left out of the local food movement.

Beyond these retail markets, New Lands farmers sold to restaurants, distributors, and stores, which benefited by having a wider variety of local food to sell to their consumers.

Table 3: Direct to Consumer Retail Customer Averages			
Market Avenue	Average# of Customers per week	# Weeks	Total Estimated Customers
Main South Farmers’ Market, Worcester	199	18	3,582
REC Mobile Market, Worcester	104	18	1,872
CSA, West Springfield and Worcester	66	18	66
Farm Stand, West Springfield (New)	10	18	180
Fresh Start Mobile Market, Springfield	300	18	5,400
Merrick Market, West Springfield (NEW)	30	12	360
Total	493	18	11,460

Illustration of the lessons learned as a result of completing this project

The lessons learned from the “Advanced Farmer Training for New Americans seeking Specialty Crop Markets in Central and Western Massachusetts” project include:

- New American farmers can advance their skills sets, particularly with one-on-one technical assistance.
- The easiest skill sets for new American farmers to attain are related to improved farm production.

- Skill sets that need further targeted assistance for New American farmers are farm planning, marketing skills, finance management and record keeping.
- Demand for specialty crops in Central and Western Massachusetts continues to grow and new farmers are able to increase their sale of local produce.
- Low-income, urban consumers are interested in purchasing locally grown, specialty crops.
- Specialty ethnic crops are also in demand and there is room for increased sales of some of these in the future.

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Organization:

Massachusetts Maple Producers Association

Project Title:

Massachusetts Maple Weekend

Final Report

FY13 12-25-B-1676

1) Project Summary

- a) **Background of the initial purpose of the project, including the specific issue, problem or needs that was addressed by the project;**

Massachusetts farmers produce less maple syrup each year than the state's consumer's purchase, but still don't capture the full retail revenue potential of their products. Many Massachusetts consumers purchase their maple syrup from grocery stores, often getting syrup from other states or Canada, without even being aware that maple products are produced here in the Commonwealth. At the same time, many maple producers sell their syrup in bulk, at wholesale prices, and to re packers in other states. By connecting consumers with producers, we can keep consumers' dollars in Massachusetts and boost the income of local maple producers.

b) Description of the importance and timeliness of the project;

There is growing demand among consumers both for buying agricultural products directly from local farms and for using natural sweeteners rather than highly-processed ones. Maple syrup meets both of those criteria, and demand is steadily increasing. This project helped make more consumers aware that they could source maple syrup from local farms, helping sustain those farms as they work to meet rising costs of land, energy and other inputs.

c) If the project built upon a project that previously received Specialty Crop Block Grant, describe how the project complemented and enhanced previously completed work.

A 2011 Specialty Crops Block Grant allowed the Massachusetts Maple Producers Association to purchase advertising space in 'Buy Local' directories around the state, and to underwrite local NPR shows during the sugaring season. Those activities did help raise awareness of local maple products and brought some new business to our members, but the 2013 grant proved far more effective in doing so.

2) The Project Approach (Including the following information):

a) A brief summary of activities performed and goals and / or targets achieved throughout the entire grant period. This should represent the activities/ goals and targets specified in Attachment B: Work Plan;

This project endeavored to enhance the competitiveness of Massachusetts maple products by coordinating a "Maple Weekend" event, similar to those in other maple producing states, designed to draw attention to the state's maple producers and encourage direct-to-consumer sales. The weekend consisted of open house events at 44 sugarhouses, and coordination with 31 restaurants that featured menu items made with Massachusetts maple syrup. We attracted a significant amount of earned media, ran paid advertising in

targeted outlets, and used our website as the central hub for information about events and activities.

- b) If the project benefited commodities other than specialty crops, indicate how the Contractor ensured that grant funds were used only to enhance the competitiveness of specialty crops;**

Not applicable.

- c) A summary of the contributions and roles of project partners.**

We had no project partners for this undertaking. It is worth mentioning, however, that many allied organizations helped with outreach by publicizing the events in their newsletters and on social media. This included a number of Massachusetts' "buy local" organizations, as well as the Massachusetts Department of Agricultural Resources. The Massachusetts Restaurant Association was also instrumental in helping us reach out to their membership for participation. We also received a small grant from the Massachusetts Society for the Promotion of Agriculture for design and printing of a new piece of marketing collateral which we used during the event.

3) Goals and Outcomes Achieved (including the following information)

- a) A description of the activities that were completed in order to achieve the performance goals and measureable outcomes identified in Attachment B;**

Nov-Dec, 2013: Solicited participation from maple syrup producers and restaurants via email, phone calls and postal mail.

Jan-Mar, 2014: Gathered information from participating farms and restaurants for participation, including baseline sales data from farms for comparison.

Feb, 2014: Launched section of website for Maple Weekend, listing all participants along with the activities they were offering and their contact information.

Publicized maple recipe contest.

Placed print advertisements in newspapers announcing event and listing website address.

Distributed literature to participating restaurants for distribution to customers during maple weekend.

Mar, 2014:

Conducted press and social media outreach. At least 30 newspaper articles and TV news spots featured Massachusetts maple syrup and the weekend events, a big increase over past years. The Massachusetts Maple Producers Facebook page increased from fewer than 300 'likes' to more than 700 in just a few months. Our website traffic during the month of March more than doubled from 2013, with the greatest amount of hits going to the pages listing sugarhouses and restaurants participating in the weekend events.

The recipe contest was cancelled a few days before it was scheduled to happen, due to a lack of interest from the public. In hindsight, we feel that a recipe contest itself is still a good idea, but requiring entrants to come to an event with their entry, rather than just submitting a recipe via email or mail, was the limiting factor in this case. We may revise and revisit the idea in future years.

The weekend itself was very successful, with participating farms reporting a significant number of visitors and sales. Restaurants also reported a great deal of interest in their maple menu items.

b) If the outcomes measured are long term, summarize the progress that has been made toward their achievement;

We know from experience that customers of sugarhouses usually return in future years, so the boost to individual farms' sales due to the 2013 Maple Weekend activities will likely lead to continued strong sales in future years. We believe that restaurants' helping to promote the use of maple syrup in baking and cooking, and then distributing literature we gave them which will guide customers to local farms to purchase syrup, will also help increase sales for Massachusetts sugar makers over the long term.

We intend to repeat the Maple Weekend events in future years, building upon the success of this first effort. With various systems already in place, the amount of staff time needed will be reduced, freeing up time to do more outreach. Relationships established this year with participants will also reduce time spent on organizing future years' events.

c) A comparison of actual accomplishments with the goals established for the grant period;

We had hoped to get 20 sugarhouses to participate in the weekend, and we had 44. We had hoped to get 20 restaurants to participate, and we had 31. We had hoped to generate an additional 15% in sales for participating sugarhouses and, based on the data we were able to gather, we feel confident that we reached that goal.

d) Illustration of baseline data that has been gathered to date and the progress towards achieving set targets;

When soliciting participation we asked farmers for retail sales figures for 2013 in order to establish a baseline for comparison with 2014 sales. This proved challenging, as many participants did not want to provide such information, for some particularly when they heard it was for a project underwritten by a government grant, even when it was explained to them that their information would be aggregated and no individual farm's financial information would be disclosed. It was also challenging, because many sugar makers keep records differently, sell much of their syrup wholesale or in bulk, or had other anomalies – such as price changes from one year to the next – which made standardizing our data challenging. We made accommodations by allowing farms to report, instead, on their own percent increase in gross sales between 2013 and 2014, or changes in quantities of items sold.

We distributed sign-in sheets for sugarhouses to post in order to gather information from visitors about why they decided to visit that day, to gauge whether our outreach efforts made any impact. Most sugarhouses reported that few people signed in, but that they spoke with many customers who had heard our radio ads or seen announcements on social media.

Of the data we were able to collect and aggregate, from slightly more than half of the 44 participating farms, sales increased by a bit more than 20% from 2013-2014.

Comments we received from sugar makers included:

- 20% increase in sales over last year.
- We picked up a new restaurant account because the manager came by and agreed to purchase several gallons a month.
- It was by far our busiest weekend of the season.
- Many new visitors and lots of sales.

- 30-40 percent increase in visitors that weekend and we ran out of product to sell.

Sales of maple products from sugarhouses during the sugaring season are very weather-dependent. If it is too cold and the sap isn't running – as was the case this year – people often aren't as interested in visiting sugarhouses. And overall production can vary as much as 50% from year-to-year, leaving producers with shortfalls or surpluses of product, and press and word-of-mouth about a poor season often leads to a lack of customer traffic at the sugarhouses. As such, it is difficult to compare year-over-year data for particular weekends of sales or even for entire seasons.

But we definitely learned from this project that having a well-publicized event helps to bring customers to sugarhouses, no matter the weather. Even though the weather was such that the sugaring process was not in full swing by the date of the event, many people visited our members' operations anyway.

e) Summarize the major successful outcomes of the project in quantifiable terms.

The majority of the 44 participating sugarhouses and 31 restaurants indicated an interest in participating again in future years, suggesting a general sentiment that the event is worth the effort that they had to put in. The increase traffic on the MMPA website and Facebook page points to a growth in consumer interest in the products consumers are looking for, and a desire to source them from local farms.

4) Beneficiaries (including the following information)

a) A description of the groups and other operations that benefited from the completion of this project's accomplishments;

The beneficiaries of this project were the 250+ maple syrup producers in Massachusetts. These range from large operations that sell primarily wholesale and bulk syrup, to smaller producers who sell all of the syrup they make at their own farm stands or at farmers markets.

b) State the number of beneficiaries affected by the project's accomplishments and / or potential economic impact of the project.

The Massachusetts maple industry generates roughly \$3 million per year in sales, plus additional revenue in ancillary business from restaurants and tourism. By selling products directly to consumers, as this project promoted, instead of wholesale or in bulk, sugar

makers are able to capture 30-50% more revenue, helping sustain their farms. Efforts such as Maple Weekend that help bring customers directly to farms to purchase products also have a ‘ripple effect’ that goes beyond these particular products and farms. By educating consumers about local agriculture, and getting them into the habit of buying directly from growers when possible, the Maple Weekend event no doubt plays a role in increasing farm-to-consumer sales year-round. Finally, money spent to purchase agricultural products directly from the farmers stays in the community, hiring local labor and purchasing inputs locally, so the broader economic impact is significant.

5) Illustration of the lessons learned as a result of completing this project

While MMPA has long had an online directory of sugarhouses open to the public, and has encouraged consumers to visit during the sugaring season, this project offered the lesson that concentrated energy on a particular weekend of events generates a significant amount of awareness and business for our members. It was a very labor-intensive project for our very small staff (one Coordinator, who works quarter-time), but this initial year of the event left us with the framework to continue holding Maple Weekend in future years with less required labor, and helped us build relationships that should encourage repeat participation and new sugar makers and restaurants to engage in the event in future years as well.

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Organization Name:

Massachusetts Nursery and Landscape Association

Project Title:

Developing Marketing Strategies and Outreach Program for Plant Something MA

Final Report

FY13 12-25-B-1676

PROJECT SUMMARY

The MNLA and MFGA developed a promotional campaign to reframe how the public thinks about trees, flowers, bushes, house plants, vegetable plants, et al, entitled “Plant Something MA”. Our goal continues to be focusing on building the state’s green infrastructure by creating an environmental movement that will lead to additional revenues for the specialty crops industry in Massachusetts.

We hired an expert to develop expanded marketing strategies and a coordinator to implement them. We utilized social media, traditional media, print, web-based products etc. to provide consumers with facts and figures about how important plant life is to life and well-being. This is a \$2 billion industry but with the housing bust, our revenues have suffered. We needed to capitalize on the green movement and the buy local sentiments of the day to build on our current slow growth to ensure that we have a long term recovery and sustainable industry. This industry needs 82,000 people to operate. Losing those jobs would be devastating to this economy. That will not happen overnight but as gardener’s age, we continuously need to appeal to young people and get them to regard plants and trees as a way of life not a luxury.

PROJECT PURPOSE

Plant Something MA is entirely about specialty crops. “Developing Marketing Strategies and Outreach Program for Plant Something MA” enhances the competitiveness of Massachusetts grown specialty crops through the resulting campaign which will encourage consumers to buy plants, trees, and shrubs from Massachusetts businesses.

Background

The Massachusetts Nursery and Landscape Association (MNLA) and Massachusetts Flower Growers' Association (MFGA) represent greenhouse growers, turf growers, nurseries, and growers of indoor and outdoor vegetable and herb plants and flowers. The Plant Something MA campaign is focused on building the state's green infrastructure by creating an environmental movement that will lead to additional revenues for the industry in Massachusetts. Baseline data collected through the Plant Something MA campaign thus far indicate a high consumer demand for locally sourced plant material, technical expertise and general horticultural information. The components of the proposed project will build upon the success of the initial campaign, while working towards the central goal of increasing the competitiveness and long term sustainability of specialty crops in Massachusetts.

The project is of utmost importance to help the industry rebuild after the economic downturn over the past decade. The timeliness is evidenced by the national wave toward "green" solutions and shopping locally. The specialty crops sellers and growers need to capitalize on this wave if they are to stay economically viable. The housing crash and cuts in government and university building projects have had a big negative economic impact on the green industry. Projects like "Developing Marketing Strategies and Outreach Program for Plant Something MA" will help to build upon the slow growth we are experiencing now to sustain the industry over the long term to replace the kind of growth we had in our business during the housing boom. Experts seem to agree that we will not see that kind of housing boom for a decade, but the environmental issues of CO₂, global warming, reducing energy costs, and providing habitat to bees, birds and other wildlife are things that we can tap into now - and if we are not growing, we are dying. We cannot be static. The traditional gardeners are aging and unless people under 40 can be brought around to value plants and trees, the future of these our crops will be dim. Without a new direction, the industry will slowly wither.

The project had three main objectives:

1. Develop marketing strategy to increase the number of consumers and green industry professionals participating in the campaign.
2. Develop consumer outreach program and materials for distribution to consumers at local and statewide trade shows and exhibitions
3. Develop promotional materials for distribution via electronic media listing independent green industry professionals, promoting the benefits of planting, and tips on how to maximize your investment

The first phase of this project was funded by a Specialty Crop Grant. Plant Something MA on May 15th was a concept developed and implemented through the first phase. The 2013 event was highlighted by plantings conducted by 154 businesses and residents representing

120 cities and towns. Of the total participants, 97 of the projects were done in a public location. This project expands the previously funded project as we are now focusing and expanding on the message in consumer and professional outreach by marketing to the consumer at targeted statewide events as well as the website and social media. We also hope to enhance “Plant Something Day” in 2014 by increasing the number of public planting events to 200 statewide events.

This project was not been submitted to or funded by another Federal or State grant programs.

PROJECT APPROACH

Program Coordinator – implementation of work plan developed by the Plant Something MA Task Force including but not limited to:

- development of Task Force meeting agendas; compilation and distribution of meeting notes; grant management including reporting and data collection;
- program information and recruitment presentations at MFWGA Annual Meeting and MNLA/MCH professional development meetings; New England Grows trade show, Boston Flower and Garden Show x2, MA Envirothon competition;
- develop coupon program recruitment flyer for industry professionals and customer coupon download files; develop and maintain coupon program participant database;
- electronic and telephone recruitment of industry participants in the 2014 & 2015 May 15th Plant Something MA Day; development and maintenance of program participant database; coordination the distribution of Plant Something MA May 15th signs; seedling distribution event coordination with the South Shore Great Pumpkin Challenge;
- community organization outreach – electronic and telephone communication; Develop and distribute press releases to Massachusetts media outlets; Media interview – Fox 25 Boston
- coordination and development of materials to be posted to the Plant Something MA website
- daily management of social media accounts including post development, cross posting relevant content, program promotion

Garden Content Writer – contractor developed a series of weekly garden and landscaping tips geared towards consumers. The material is submitted to the webmaster on a weekly basis for posting on the Plant Something MA website. The information is developed on a real time basis, taking into account the current weather patterns and news events related to horticulture.

Web & Graphic Design – projects completed include:

- Page updates - This week in your Massachusetts garden – Garden Content Writer material; Add/remove PSMA members from locator map and alpha lists on an as needed basis
- New pages/posts – text and video; Boston Flower & Garden show seed cup pages; May 15 promotion - Created sign up form for May 15 planting day, updated MA graphic and participant list as needed; May 15 photo content promotion - Setup ShortStack photo content forms for both the website and Facebook.
- WordPress theme and plugins backup - Backup plugin automatically completes monthly backup of site. Plugins manually backed up and updated as needed.
- Coupon promotion - Setup Short Stack promotion with forms for both the website and Facebook. Also, setup series of corresponding pages within WordPress website so users could download the coupon pdfs.
- Overhaul to WordPress theme so project coordinator could make edits - Sirius Design had been fully maintaining the website. In order to offer editing capabilities to the project coordinator the WordPress theme had to be adjusted as much of it was hard-coded to be more budget-friendly for client. Setup WordPress training tutorial.

Plant Something MA Task Force – provided oversight to the campaign. The Task Force is comprised of members of the Massachusetts Nursery & Landscape Association and the Massachusetts Flower Growers Association, along with staff support from both organizations.

- The Task Force meets in person, as well as via electronic communication, to develop and refine the work plan for the project. Modifications are made as necessary, based on the outcome of planned events. For this reporting period, the Task Force conducted face to face meetings on the following dates:

Oct 22, 2013; Nov 15, 2013; Dec 18, 2013; Feb 19, 2014; Mar 5, 2014; Mar 11, 2014; Sep 11, 2014; Oct 22, 2014, Jan 22, 2015, Feb. 4-6, 2015, Feb. 15, 2015, March 7-15, 2015, Apr 15, 2015, April 23, 2015, May 4, 2015, June 3, 2015, June 16, 2015, July 7, 2015, July 22 – 23, 2015, Aug 19, 2015, Sept 30, 2015, Oct 28, 2015

Collaboration of Project Coordinator, Plant Something MA Task Force and Boston Flower Show volunteers – Together this collaboration distributed the coupons. The coupon promotion ran from March 12 – June 16th. Visitors to the Plant Something MA exhibit at the Boston Flower & Garden Show were provided with a free seed cup to take home for planting. One of three “mystery” seeds were provided, along with instructions to visit www.plantsomethingma/org/flowershow. There, consumers would learn what seed they planted based on the color of the cup they received. Planting and care instructions were also provided, as well as a link to the 2014 coupon promotion program. The program was also promoted on Facebook.

There were five coupon types offered:

- \$5 off a purchase of \$25 or more
- \$10 off a purchase of \$50 or more
- \$25 off a purchase of \$100 or more
- \$75 off a purchase of \$300 or more
- \$200 off a purchase of \$1000 or more

GOALS & OUTCOMES

Our project goal was to increase consumption of annuals, perennials, edibles, trees, shrubs and bedding plants through the Plant Something MA campaign. There were many methods to measure our progress with the campaign and the grant, such as, website analytics and attendee records.

Based on Google Analytics of the Plant Something MA website, including the Flower Show promotional page, and data provided by ShortStack (a web and social media interaction tool), the website has had 15,693 visitors during the last year. 11,892 visitors were new and 3,801 were returning patrons. The main peaks in visits come during the Flower Show promotion and May 15th event. 39.54% of visitors have accessed the site directly by entering the website link, as opposed to 48.58% that find the site organically. Site visitors are from all areas of the Commonwealth, as well as surrounding states and several foreign countries.

During the Flower Show and May 15th promotion, over 14,000 people were exposed to the Plant Something MA through social media promotions. A series of paid (non-grant funded) and free advertising was used to promote the Boston Flower & Garden Show exhibit, Plant Something MA Day on May 15th and Plant Something MA in general.

14,000 sets of printed materials and corresponding seed cups were prepared for the 2014 Boston Flower & Garden Show. Over 13,000 units were distributed, along with instructions on how to access the seed type information. Of special note, the seed types offered in 2014 were not overly difficult to distinguish by sight. Consumers well versed in gardening and seed starting were likely to be able to determine the seed type by simple examination. In those cases, visitors still encouraged to visit the website to learn what variety of seed they just planted.

Visits to the Plant Something MA website, including the Flower Show page and its subsidiaries (detailed pages for each seed type) totaled 5010. The coupon promotion garnered an additional 374 views. Fifty three consumers actually registered for the coupon program. ShortStack did not provide for the number of coupons each customer downloaded.

To specifically measure the outcome of this grant, we proposed, and developed, a coupon program to measure the consumption of goods/services involving annuals, perennials, edibles, trees, shrubs and bedding plants. In total, forty businesses participated.

Unfortunately, the redemption rate for the coupon promotion was zero. We did not receive negative feedback from the participating businesses or customers that registered. The program was designed with a specific end date in mind (6/15), which historically is a slow time period for green industry businesses. It was our intention to help drive new and/or expanded business to the program participants in exchange for assisting Plant Something MA with its data collection efforts.

In addition, the web design component of the project has been ongoing, with many improvements made to the PlantSomethingMA.org website. We have fully integrated the marketing strategies developed by the consultant into our plan and are moving forward currently to integrate the recommended components into the website to round out and complete the project.

Comparison of Set Goals & Achieved Goals

TASK	STATUS	TO BE COMPLETED BY
Create additional Communications Toolkit items for public planting coordinators	Completed	Marketing Consultant
Develop marketing strategy for events and social media outlets	Completed	Marketing Consultant
Evaluate PlantSomethingMA.org website including user traffic data to determine consumer preferences. Make necessary modifications to enhance consumer engagement.	Completed	Marketing Consultant, Coordinator & Web Designer
Boston Flower & Garden Show – develop an interactive educational exhibit that will promote the horticulture industry in MA and Plant Something MA Day.	Completed	Marketing Consultant, Coordinator, Web Designer & Task Force
Development, design and print coordination of promotional materials	Completed	Web Designer

Task Force Meetings – personal & teleconference	Completed	Coordinator, Task Force and Consultants
Generic promotion of Plant Something MA – use Garden Writer content for placement in guest blogs and small media outlets	Completed	Marketing Consultant
Implementation of marketing strategy	Completed	Coordinator
MA Day at the Big E – distribute promotional materials	Completed	Coordinator, Web Designer & Task Force

BENEFICIARIES

There are more than 5,100 horticulture-related businesses within Massachusetts. A campaign focused on local resources of plant material and technical experts has the potential to positively impact the entire industry. We will continue to encourage members of our organizations (600 businesses) to adopt the campaign theme into their own marketing efforts. Non-member businesses and related community organizations will also be engaged as program participants. We will use the Plant Something MA website, social media and print materials to promote the campaign.

In the long run, all specialty crop growers and sellers benefit from this campaign, even beyond our membership, since it is intended to elevate consumers’ awareness about the value of green plants for the air we breathe, the food we eat, the flowers we love. This project would enhance and expand on the current Massachusetts Department of Agricultural Resources programs of “Mass Grown” and “Buy Local” to include the nursery, greenhouse, landscape and floriculture segments of the industry.

Our goal is develop the PlantSomethingMA.org website into a buy local resource for purchasing specialty crops from horticultural businesses within the Commonwealth. The development of a public relations campaign will focus the direction of the program for maximum effectiveness. Research and development of easy-to-use consumer education materials in the form of “how to” articles will be distributed via electronic and print media. Those materials will focus on simple planting information and will also promote the PlantSomethingMA.org website, social media pages and Plant Something MA and member events.

In accomplishing our goal, all specialty crop beneficiaries have the potential for a positive economic impact through increased sales and consumer awareness.

Economic Impact

This project combined the two organizations that together account \$2.6 billion annually according to a study done by the University of Vermont Extension and University of Maine Cooperative Extension in 2009. This number includes producers (nurseries, greenhouses, herbs, cut flowers, turf grass), retailers (garden centers and florists), and landscape services (landscape design, installation, maintenance, lawn care and tree care). At least 68,000 people are employed in the industry and another 14,000 are needed. Of the existing jobs, 48,000 are fulltime.

We estimate that these businesses will grow 10-15% over whatever they are generating at the start of the campaign.

Other Beneficiaries

All sellers of trees, plants, food, whether wholesale or retail, should benefit from additional sales.

Consumers benefit from information about the environment and from developing skills in gardening. The goal of this campaign is to educate people about the life cycle and physical needs for people to have greenery and to teach consumers how to add plants effectively without a lot of added work. This is about creating an environmental awareness among people.

Everyone benefits from positive environmental impact if there are more trees and plants.

LESSONS LEARNED

What we have learned through this project is that coupon programs are not a reliable method to measure the success of our campaign. In the future, we will develop a data collection tool that will better allow a direct measurement of program impact. For now, we will have to rely on sales receipt data from one time period to another, covering the dates of our active campaign, to measure the success of this current project. Data collection for that aspect is a costly endeavor and at this time no longer completed by USDA. We feel that we have identified an area that does need more economic support to accurately measure the endeavors of marketing projects like Plant Something. Anecdotally, we feel that the campaign has been a great success as we develop more outreach and tools to assist the green industry in their sales of specialty crop plants.

CONTACT PERSON

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ADDITIONAL INFORMATION

Pictures from the 2013 Boston Flower Show



Seed Handout to Boston Flower Attendees



What type of seed did you get?

Visit plantsomethingma.org/flowershow to find out what type of seed you got, how to plant it, and care instructions!

Plant Something MA is a new initiative to get more people in on the fun of planting something and watching it grow. Planting is good for you, your community, and the local economy.

Visit plantsomethingma.org to pledge to plant something on May 15, get planting ideas, and enter our Plant Something MA contest.

PLANT SOMETHING!
MAY 15, 2013

Don't just stand there... PLANT SOMETHING!

Sign up now to help Massachusetts grow on May 15!

Don't Just Stand There - Plant Something! May 15 Campaign Strategy Produced by Good Egg Marketing

Overview

The Massachusetts Nursery and Landscape Association and Massachusetts Flower Growers' Association have jointly launched Plant Something MA, a consumer marketing program to encourage people to get involved with planting.

Plant Something MA is launching a "Don't Just Stand There – Plant Something" campaign to get every town in Massachusetts to plant something on Wednesday, May 15, 2013.

Plant Something seeks to use this inaugural event to

- Create a buzz about the initiative
- Get Massachusetts residents excited about planting
- Attract visitors to the PlantSomethingMA.com website and Facebook page.
- Establish PlantSomethingMA.com as a go-to site for learning about and enjoying plants and locating garden centers, landscapers, and wholesalers.

2013 Plant Something MA May 15 Campaign Objectives

1. Get someone to organize at least one public planting event in every city and town in Massachusetts.
2. Generate visitors to website and Facebook page
3. Create consumer awareness and excitement about Plant Something MA
4. Build awareness and generate business for MNLA and MFGA members
5. Get as many elected officials as possible to participate

Audiences for Don't Just Stand There – Plant Something!

1. MNLA and MFGA members who might organize a public planting in their town (or otherwise promote the campaign)
2. Industry professionals who are not MNLA or MFGA members who might join and organize a public planting in their town
3. Leaders of groups and organizations (such as master gardeners, gardening clubs, 4H, Boy & Girl Scout troupes) who might organize a public planting in their town
4. Teachers, administrators and students who might plant something at their school
5. Gardeners, local food enthusiasts, environmentalists, realtors, and other civic-minded individuals
6. Politicians: Elected officials (Mass. and U.S. senators and representatives and local office holders)
7. Mass.-based journalists in traditional media who cover local news, gardening, food, environment, schools, or other beats
8. Mass.-based bloggers, Twitter users, and social media influencers who cover local news, gardening, food, environmental, schools, or other areas of interest
9. Any Mass. resident who might plant something

Outreach and Awareness Strategies

1. **Mobilize MNLA and MFGA members** to promote the campaign and organize a public planting in their town.
2. **Mobilize industry professionals who are not MNLA or MFGA members** to get involved in the campaign and organize a public planting in their town.
3. **Work with members of the MNLA legislative committee** to develop and implement a strategy to engage elected officials in the campaign.
4. **Ask non-profit organizations, government agencies, and groups to promote the campaign** and engage their members and supporters.
5. **Ask plant-friendly groups to organize a public planting in their town**, ask their members to plant something on May 15, and/or help promote the campaign.
6. **Work with Mass. public schools** and related groups to engage teachers, students, and parents in a planting at their school.
7. **Create a media campaign targeting state and local outlets in traditional and social media** to help recruit supporters, provide advance publicity for May 15 events, run calendar listings, and cover the May 15 events.
8. **Use the 2013 Boston Flower and Garden Show as a public kickoff event** for May 15.
9. **Create a contest on PlantSomethingMA and/or the PlantSomethingMA Facebook page** to promote awareness and engagement in Plant Something and the May 15 campaign.

Deliverables/Activities

1. **Set up a dedicated section of the home page or a landing page for PlantSomethingMA.com** to promote the campaign and engage participants.
2. **Revise the PlantSomethingMA website** to provide content that encourages repeat visitors after the campaign, and motivates people to sign up for the email list.
3. **Create a Facebook page** that engages people in the campaign and provide fun and useful content that people want to comment on and share.
4. **Create a monthly email newsletter** and encourage people to subscribe.
5. **Create print and electronic materials**
6. **Create a Twitter account** to promote the campaign, website and Facebook page
7. **Set up measurements** to track results

Key Messages (exact wording and supporting facts to be developed)

- Planting is easy, healthy and fun!
 - Planting is good for you
 - Planting is good for the environment. We rely on plants for the air we breathe, food we eat, and water we drink – it's all about stability – without plants, we'd have no people.
 - Planting is good for your physical and mental health
 - Planting is good for your property value
- Support your local garden center, landscaper, and flower growers.
 - Planting is good for the Massachusetts economy
 - Planting is good for your community
 - Local businesses generate more revenue

Goals and Measurements

- Get as many Massachusetts cities and towns as possible to hold a public planting on May 15. (Measure by # of leaders registered on website)
- Get schools to plant something. (Measure by # of school leaders registered on website)
- Get Massachusetts groups and residents to plant something. (Measure by # of registered participants on website)
- Attract coverage from statewide and local media outlets in traditional and social media. (Measure by personal contact and Google Alerts)
- Increase traffic (including visits to the locator page) to the PlantSomethingMA.com website through May 15, 2013. (Measure through Google Analytics)
- Attract repeat visitors to PlantSomethingMA.com between May 16 and October 15, 2013. (Measure through Google Analytics)
- Attract fans, likes and comments on Facebook page. (Measure through Facebook Insights)
- Attract Twitter followers and retweets (Measure through Twitter)

TIMELINE

December

- Agree on strategy, plan and budget
- Begin producing draft letters and emails for outreach
- Contact initial groups informally to ask them to save the date
- Send postcard and email to MNLA and MFGA members to offer opportunity of being point person in their town
- Plan presence and kick-off at Boston Flower show

January

- Update website with new content, campaign toolkit, and sign-up forms
- Develop emails and outreach letters
- Plan outreach for New England Grows
- Continue to plan presence and kick-off at Boston Flower show
- Finalize content and materials

February

- New England Grows
- Send save the date letter to all legislators describing the campaign and asking them to leave their calendar open
- Begin formal recruitment and outreach
- February 15 - Send monthly email update to town coordinators
- Launch publicity outreach for Flower Show kickoff

March

- March 1 – Send monthly eNewsletter to subscribers
- Continue publicity campaign around Flower Show kickoff
- Plant Something Campaign Strategy 4 Good Egg Marketing

- Hold webinar for new Public Planting Coordinators
- Continue Recruitment and outreach
- March 15 - Send monthly email update to town coordinators
- March 13-17 - Public kickoff at Boston Flower Show

April

- Continue Recruitment and outreach
- Media outreach continues
- Hold webinar for new Public Planting Coordinators
- Follow up with elected officials
- April 1 – Send monthly eNewsletter to subscribers
- April 15 - Send monthly email update to town coordinators

May

- Continue Recruitment and outreach
- Media outreach and final PR push
- Follow up with elected officials
- May 1 – Send monthly eNewsletter to subscribers
- May 1 – Send biweekly email update to town coordinators
- The big day!
- Wrap up, thanks yous
- Evaluation, recommendations for next year

CAMPAIGN PLAN

Outreach and Awareness Strategies and Tactics

Strategy 1: Mobilize MNLA and MFGA members to promote the campaign and organize a public planting in their town.

Overall coordinator – Kim

Timeline – Send postcard and emails in mid-December, make phone calls in January, continue to recruit members through May, but exclusive ends February 1

Tactics:

- Create and mail a large postcard to all MNLA and MFGA members in mid-December (with link to private landing page on website) that reintroduces PlantSomething campaign and asks them to sign up to coordinate the public planting in their town. Deadline for exclusive opportunity to become the Plant Something coordinator for their town will be January 15.
- Create email and send to all MNLA and MFGA members in December with brief info about the campaign, directing them to the website. Deadline for exclusive opportunity to become coordinator will be January 15.

- Create private landing page for MNLA and MFGA members on PlantSomethingMA website, describing the campaign, its benefits and goals, and asking them to do one of the following (but make clear it's optional):
 - Sign on to be a Plant Something coordinator for their town (or a neighboring town if we need help covering it);
 - Recruit someone in their town (or a neighboring town) to become the Plant Something [Your Town] Coordinator;
 - Participate in table at Boston Garden Show;
 - Put up signage and literature in their store or on their website; and/or
 - Send emails to customers, post on Facebook, etc.
- Plant Something Task Force members will call members in January to remind them about the campaign and ask if they want to sign up.
- Conduct outreach at New England Grows.
- Messages and updates about Plant Something should be included in member emails and mailings through May 15.

Strategy 2: Mobilize industry professionals who are not MNLA or MFGA members to join so they can get the benefit of serving as Public Planting Coordinators in their town.

Overall coordinator – Kim

Timeline: Planning in December/January, outreach in February, March

Tactics:

- Create a flyer or postcard (similar to the member recruitment postcard) that makes a compelling case why joining MNLA/MFGA and being their town coordinator for the Plant Something MA May 15 campaign will help them attract customers.
 - Printed piece should be ready by mid-January
 - Printed piece should be usable through May 15, so it can be distributed at events that attract nonmembers in the industry
- Print extra PlantsSomething MA May 15 stickers to distribute to members to wear when they are recruiting nonmembers
- Recruit nonmembers at New England Grows
 - Hold task force phone meeting in early January to discuss how to recruit nonmembers
- Recruit nonmembers at the Boston Flower Show
 - Consumers are the main audience for the show, but there may be networking opportunities to recruit nonmembers
- Recruit nonmembers at the MNLA Educational program at the end of March
- Recruit nonmembers at other industry events (we won't have a table, but will ask members who are attending to network with nonmembers and give them copies of the printed piece):
 - Ecological Landscapers Association
 - NE Regional Turf Growers Conference (March 4-7)
 - Cape Cod Landscapers Winter Conference

- Recruit nonmembers at

Strategy 3: Work with members of the MNLA legislative committee to develop and implement a strategy to engage elected officials in the campaign.

Overall coordinator – Kim

Timeline: Contact legislative coordinator in December, attend meeting in January, conduct outreach through May

Tactics:

- Appoint a liaison from Plant Something Task Force to MNLA legislative committee
- Attend Legislative Committee meeting
- Obtain (or create) a list of local elected officials
- Create and mail a Save the Date outreach letter to mail to each Mass. Senator and Rep and local officials
- Create plan for outreach to officials
- Email all offices with updated event info in April, asking them to make a commitment
- Enlist volunteers to contact each office
- Coordinate PR with elected officials’ offices.

Strategy 4: Ask non-profit organizations, government agencies, and groups to promote the campaign to their members and supporters.

Overall coordinator – Kim

Timeline: Create lists and assign tasks in January, conduct outreach February – May

Tactics:

- *Note: The groups in this strategy are not likely to coordinate a public planting or plant themselves, but have means of spreading the word through their memberships or their newsletters, websites, and social media.*
- Create a list of statewide groups or organizations to contact.
 - Mass. Dept. of Agricultural Resources
 - Mass. Federation of Farmers Markets
 - Mass. Horticultural Society
 - New England Wildflower Society
 - Mass. Farm Bureau
 - Sustainable Business Network of Massachusetts
 - Mass. 4-H Foundation – Laurie Flanagan, lflanagan@mass4hfoundation.org
 - Boy Scouts
 - Girl Scouts
 - Big Brother, Big Sister, Girls Inc, Boys & Girls Clubs
 - Others

- Create a Save the Date email with brief campaign pitch that Kim (or task force members) can send out to groups we have close ties to for initial outreach in December and January
- Create an email message (with link to Campaign Page on PlantSomethingMA.com) with brief campaign description, asking them to post info about the campaign on their website, in their print or email newsletter, on their Facebook page or other social media, or to hand out flyers at a meeting.
- Create sample email, newsletter text, and social media posts for groups to send to their members for recruitment and promotion
- Find a Plant Something committee member who knows someone at each of the groups to sign up to reach out to their contacts on those groups by sending them the email letter and following up by phone, if possible.

Strategy 5: Ask community-based gardening and plant-friendly groups to organize a public planting in their town, ask their members to plant something on May 15, and/or help promote the campaign.

Overall coordinator – Kim

Timeline: Create lists and assign tasks in January, conduct outreach February – May

Tactics:

- *Note: The groups in this strategy are likely to coordinate public plantings or to plant something themselves or to have chapters/groups in towns in Massachusetts who might do the activities.*
- Create a list of local organizations (and/or local groups or chapters of state or national organizations or agencies) to contact
 - Gardening clubs or groups
 - Master gardeners
 - Buy Local Groups
 - Slow Food groups
 - Community gardens
 - Agriculture commissions
 - Conservation commissions
 - Environmental groups on college campuses
 - Others
- Create a Save the Date email with brief campaign pitch that Kim (or task force members) can send out to groups we have close ties to for initial outreach in December and January
- Create an email message (with link to Campaign Page on PlantSomethingMA.com) with brief campaign description and goals, asking them to become the Plant Something [Your Town] Coordinator, ask their members to plant something on May 15, and/or help promote the campaign.
- Find a Plant Something committee member who knows someone at each of the groups to sign up to reach out to their contacts on those groups by sending them the email letter and following up by phone, if possible.

Strategy 6: Work with Mass. public schools and related groups to engage teachers, students, and parents in a planting at their school.

Overall coordinator – Kim

Timeline: Plan outreach in January, conduct outreach in February – May Plant Something

Tactics:

- Reach out to Mass. Dept. of Education and see if they will help promote the campaign
- Contact school and education related groups
 - Mass. Ag in the Classroom
 - Mass Farm to School Project
 - Mass Teachers Association, etc.
 - Mass Farm-based Education
 - Food Corps (Mass. participants)
- Create a Save the Date email with brief campaign pitch that Kim (or task force members) can send out to groups we have close ties to for initial outreach in December and January
- Create a customized email message (with link to Campaign Page on PlantSomethingMA.com) with brief campaign description, and asking them to organize a planting at their school on May 15.
- Create sample email and website text for groups to send to their members for recruitment, promotion
- Create an email message (with link to Campaign Page on PlantSomethingMA.com) with brief campaign description, asking them to post info about the campaign on their website, in their print or email newsletter, on their Facebook page or other social media, or to hand out flyers at a meeting.
- Find a Plant Something committee member who knows someone at each of the groups to sign up to reach out to their contacts on those groups by sending them the email letter and following up by phone, if possible.

Strategy 7: Create a media campaign targeting state and local outlets in traditional and social media to help recruit supporters, provide advance publicity for May 15 events, run calendar listings, and cover the May 15 events.

Overall coordinator – Myrna (then Kim?)

Timeline – Develop strategy in January, implement February - May

Tactics:

- Create sample press release and media tips for the toolkit for Plant Something [Your Town] Coordinators – Myrna by mid-January
- Develop database of local media outlets – Myrna by February 1
- Conduct media training as part of webinar for Plant Something [Your Town] Coordinators [resource permitting] – Myrna in March - April
- Follow up with Coordinators to provide support for media outreach (resource permitting) – Myrna in March - May

- Create generic calendar listings and announcements – Myrna by February 1
- Create a template for localized calendar listings and announcements – Myrna by February 1
- Ask Plant Something Task Force members for names and contacts in traditional and social media – Myrna by February 1
- Use Google Alerts and Twitter to identify reporters who cover related topics (resource permitting) – Myrna in March/April
- Select 30 most useful media contacts to let them know about the campaign and discuss coverage options (resource permitting) – Myrna in March/April
- Pitch to gardening reporters, gardening talk show and others (resource permitting) – Myrna in March/April.

Strategy 8: Use the 2013 Boston Flower and Garden Show as a public kickoff event for May 15.

Overall coordinator - Kim

Timeline – Start content development in December, revisions posted by February 1

Tactics:

- Show is March 13-17; theme for the show is Seeds of Change.
- Create a PlantSomethingMA exhibit – hand out a seed to plant and a cup with a growing medium – they have to go to a landing page on plantsomethingma.com to find out what type of plant they got and how to grow it
 - Space is 240 square feet
 - Design – Jim & Jason
 - Seeds – Bob (3 different types of seeds that look similar)
 - Growing Medium (Laura)
 - Cups – Kim (3 oz cups – 6000 total in 3 different colors)
 - Stickers – Susan (10,000 stickers with event logo to be placed on cups)
 - Volunteer coordination – Rena. Event will be organized into 2-3 hours shifts. 2 people/shift on weekdays, 4 people/shift on weekends. Rena will ask Flower Show organizers for free admission for volunteers. We will solicit volunteers for staffing from MCH members
 - Have May 15 campaign flyers to hand out
- Create landing page on PlantSomethingMa about
- Hand out May 15 campaign flyers
- Get people to sign up for mailing list – Have copies of a sign-up list (or computer with our website open for people to sign up online)
- Get MNLA and MFGA members to display Plant Something signs and hand out campaign literature at their exhibits
- Issue press release and pitch to media (Myrna?)

Strategy 9: Create a contest on PlantSomethingMA and/or the PlantSomethingMA Facebook page to promote awareness and engagement in Plant Something and the May 15 campaign.

Overall coordinator – Myrna and Kim

Timeline – Brainstorm contest approach in December, post by February 1 if approved

Tactics:

- Myrna, Kim, Jason, Rena, and Susan to schedule phone brainstorm in December
- Submit proposal to Task Force by late December
- Adjust strategy in early January
- Make decision if contest is running by January 15
- Develop content, post by February 1

DELIVERABLES

Activity 1: Set up a dedicated section of the home page or a landing page for PlantSomethingMA.com to promote the campaign and engage participants.

Overall coordinator – Myrna and Susan

Timeline – Start content development in December, content posted by February 1 or earlier

Tactics

- Create a May 15 landing page on PlantSomethingMA.com [www.plantsomethingma.com/May15]
- Create a brief teaser or banner ad for the Plant Something Campaign on the home page of PlantSomethingMA.com that links to the landing page
- The May 15 section should include:
 - A Massachusetts map that lists and visually identifies the towns (in green?) that have signed up to do a public planting. (Ideally, people will be able to click or roll over each town to locate the contact person for that town.)
 - A registration page with three sign-up options for May 15
 - Yes! I want to coordinate a public planting in my town
 - Yes! I want to coordinate a planting at my school
 - Yes! I want to plant something at my home or workplace
 - An events page that lists all the Plant Something related events
- Create a downloadable toolkit for Plant Something [Your Town] Coordinators and others (should be online by February 1) with the following info:
 - Welcome message emphasizing the benefits of Plant Something and thanking them for their commitment.
 - Timeline of events
 - 1-page recruitment flyer (PDF) to recruit a Plant Something [Your Town] Coordinator for each town. It will briefly describe the campaign and ask them to coordinate a public planting in their town on May 15, with a link to a landing page on PlantSomethingMA.com for more info.
 - 1-page promotional flyer (PDF) describing the campaign (for general public)
 - FAQ (for general public)
 - Tips for media outreach
 - Sample press release

- Tips for contacting public officials
- Sample letter/email to public official
- Sample social media content
- Sample Public Service Announcement
- Logo and usage guidelines
- Create a dedicated page (or section on May 15 page) for people who get plants at the Boston Garden Show.
- Create and send monthly emails to keep Town Coordinators engaged, describing the current item that should be worked on, and reminding them about the steps that should have been completed.
- Each Plant Something [Your Town] Coordinator will be mailed a Plant Something sign (printing and mailing costs to come out of general budget, sign to be sent from the fulfillment center in Holliston)

Activity 2: Revise the PlantSomethingMA website to provide content that encourages repeat visitors after the campaign, and motivates people to sign up for the email list.

Overall coordinator – Myrna and Susan initially, Kim to pick up in February

Timeline – Start content development in December, first revisions posted by February 1, new content added monthly afterwards

Tactics:

- Study other PlantSomething websites for ideas - Myrna
- Study competitor/peer sites for ideas - Myrna
- Review Google analytics - Myrna
- Review MNLA and MFGA materials to look for content – Myrna
- Review member websites to look for best sources of great content to cross post on our site - Kim
- Develop ideas for a kid-friendly page on the website (potential name – Garden Patch) – Myrna
- Review UMass Extension Gardening Calendar daily planting tips and contact them to discuss cross promotion and content use – Kim
- Myrna, Rena, Kim and Susan to hold phone meeting in December to discuss ideas
- Create proposal for site revisions and circulate to Task Force by end of December - Myrna
- Review Task Force feedback, finalize concepts, solicit content by mid January – Myrna
- Provide Susan with content by mid January – Myrna
- Make site revision by February 1 - Susan
- Create editorial calendar by February 1 – Myrna
- Oversee website and solicit content each month - Kim

Activity 3: Create a Facebook page that engages people in the campaign and provide fun and useful content that people want to comment on and share.

Overall coordinator – Myrna and Kim to draft content, Susan to create art for page, Kim to maintain after February

Timeline: Start page by February 1, maintain daily

Tactics:

- Draft content for page – Myrna and Kim
- Create art for Timeline – Susan
- Add Facebook icons to our website, our collateral, and signage - Susan
- Develop strategies to get people to like our Page and share content – Myrna and Kim
- Develop Facebook content strategy and calendar - Myrna
- Get dedicated Facebook URL (facebook.com/plantsomethingma) as soon as we have 30 Likes - Kim
- Develop lots of cooking and planting ideas to share throughout the spring – Myrna and Kim
- Explore cost of Facebook ads – Myrna
- Visit site daily, comment on posts, try to post 2-5x a day (links to web, Twitter, and Facebook) – Kim (starting in February)

Activity 4: Create a monthly email newsletter and encourage people to subscribe.

Overall coordinator – Kim

Timeline: Start by February 1, maintain monthly

Tactics:

- Create a database – Kim?
- Segment into categories (e.g. MNLA and MFGA members, Public Planting Coordinators, general interest, media, etc.) – Kim?
- Add new names – Kim?
- Draft sample content for newsletter – Kim or Myrna
- Create welcome emails - Myrna
- Design eNewsletter format - Susan
- Create email sign-up forms to hand out at events - Kim
- Add email sign-up to home page of site – Myrna and Susan
- Send monthly emails, promoting the May 15 campaign and new content on the website and Facebook page - Kim

Activity 5: Create print and digital materials

Overall coordinator – Kim

Timeline: Start in December, complete by February

Tactics:

- Kim or Myrna to draft text, input from Task Force, Susan to design
- **Create an electronic Plant Something letterhead**
- **Create an event logo** that includes the event date and the state of Mass. Susan – due December
- **Create a 1-page recruitment flyer** for Plant Something [Your Town] Coordinators – due mid-Jan
- **Create a 1-page general flyer for Don't Just Stand There...Plant Something May 15** – due mid-Jan
- **Create a poster or recruitment flyer** for industry nonmembers – due end of January
- **Create a table throw** (based on design of postcard to members) – due end of January

Activity 6: Create a Twitter account to promote the campaign, website and Facebook page

Overall coordinator – Kim or Myrna

Timeline: Start account by February 1, maintain daily

Tactics:

- Create Twitter profile – Myrna text, Susan design
- Find people to follow on Twitter – Myrna
- Find content to Retweet – Kim and Myrna
- Write tweets to promote our content - Kim

Activity 7: Set up measurements to track results

- Create a dashboard for entering monthly data – Myrna to create, with input from Task Force
- # of Massachusetts cities and towns that hold a public planting on May 15. (Measure by # of leaders registered on website)
- # of Schools involved. (Measure by # of school leaders registered on website)
- # of Massachusetts groups and residents to plant something. (Measure by # of registered participants on website)
- Coverage from statewide and local media outlets in traditional and social media. (Measure by personal contact and Google Alerts) – Myrna to create Excel spreadsheet
- Amount of traffic (including visits to the locator page) to the PlantSomethingMA.com website through May 15, 2013. (Measure through Google Analytics) – Susan to provide monthly reports
- # of repeat visitors to PlantSomethingMA.com between May 16 and October 15, 2013. (Measure through Google Analytics) – Susan to provide monthly reports

- Number of fans, likes and comments on Facebook page. (Measure through Facebook Insights) – Kim to provide monthly reports
- Number of Twitter followers and retweets (Measure through Twitter) – Myrna to investigate tracking and reporting tools, Kim to provide monthly reports

Organization:

Massachusetts Agriculture in the Classroom

Project Title:

Strengthening the Connections between the School Garden & Local Farms, Nurseries, Greenhouses and Garden Centers

Final Report

FY13 12-25-B-1676

Project Summary

The Project “Strengthening the Connections Between the School Garden & Local Farms, Nurseries, Greenhouses and Garden Centers” **expanded on work carried out in two of the Garden-Based Education Initiatives funded by the 2011 and 2012 Specialty Crops Grants. The primary purpose of the new Specialty Crops Grant that was funded in 2013 was to support stronger ties between school garden educators and their local farms, nurseries and greenhouses. Our goal was twofold, both to help educators to succeed in initiating new school gardens and also to help sustain these garden education programs into the future. This was achieved by developing additional tools and training that provided garden-based connections to agriculture, nutrition and local farms and horticultural businesses for Massachusetts educators including direct sales through mini-garden vouchers to local farms.**

Massachusetts Agriculture in the Classroom’s Garden-Based Education efforts came about as a direct result of the growing interest in school gardening in Massachusetts. As teachers and school administrators came to realize that garden-based education offered real benefits academically, developmentally and in terms of health and nutrition, they looked to incorporate more garden-based education opportunities into their curricula. Recent research supported the benefits of garden-based learning and drove their requests for more-and-more information and assistance related to developing school garden programs.

Massachusetts Agriculture in the Classroom (MAC) has a long-history of supporting agriculture and garden-based learning in schools through our mini-grants, workshops, conferences and written garden-based education materials. As interest in school gardening increased in recent years, MAC responded with available resources to more and more requests from educators in nearly every community across the state. They were all asking for additional information on how to garden, curriculum connections, workshops, training, on-site technical assistance and, of course, the funds to support these garden-based. In 2012 and 2013, MAC developed expansive garden-based resources that provided both web resources and direct support that offered the tools and training that enable Massachusetts teachers to initiate new school gardens or expand existing gardens.

During the Year 2014, MAC worked to build on the efforts carried out in 2012 and 2013 to expand the Garden-Based Resources for teachers who are looking to start or increase their school gardening efforts with students. Five hundred and thirty educators directly benefitted from professional development workshops held during the year 2014 and twenty schools received direct school garden mentoring support, with twenty additional schools receiving second year mentoring support. The twenty new schools also received a \$250 garden voucher connecting them to a local farm for materials and support. The work encompassed three new initiatives that provided additional tools and training for Massachusetts educators to help them develop and succeed with their garden-based education startups and to support the incorporation of stronger agricultural ties to local farms, nurseries, greenhouses and garden centers into all garden-based education programs across the state.

3. Project Approach

Through this project, Massachusetts Agriculture in the Classroom (MAC) worked throughout the year 2014 to build on the efforts carried out in 2012 and 2013 to expand garden-based resources for teachers who are looking to start or increase their school gardening efforts with students. The work supported Massachusetts educators with their school gardening and nutrition education efforts and connected them to the local specialty crop farmers through training, garden mentoring and startup garden supplies, including direct sales at local farms through mini-grant vouchers.

The work encompassed three new initiatives that are interwoven and together support the total project. The three initiatives are: A) Enhanced School Garden Mentoring Linking the School Garden to Local Farms, Nurseries, Greenhouses and Garden Centers; B) Start-up Funding for Twenty School Gardens Through Mini-Grant Vouchers to Local Horticultural Businesses, and C) Twelve Professional Development Workshops Taught by School Garden Educators Collaborating with Specialty Crop Farmers. All three projects aimed to promote increased student knowledge and interest in gardening, nutrition and consumption of fruits and vegetables and provided educators

statewide with the resources to develop successful school gardens, promote nutrition education and connect to local specialty crops farms.

Initiative A.) Enhanced School Garden Mentoring Linking the School Garden to Local Farms, Nurseries, Greenhouses and Garden Centers

In 2012 and 2013, MAC piloted a Garden Mentoring Program in twenty Massachusetts Schools each year. We developed a draft mentoring manual, connected the school gardens with a blog and developed workshops to train garden mentors. In 2014, MAC maintained a relationship with the twenty schools mentored last year, working with them to secure long-term mentoring support. We helped these schools move along through next steps, deepen their curriculum connections, forge stronger links to their local farms and community resources, and discussed issues with them about their horticultural success in their first year and made gardening plans based on this for the year to come.

In 2014, MAC continued to build on what we learned in 2012 and 2013 to institute a formal school garden mentoring program using specialized trained staff school garden mentors for initial school garden support for two years. After two years, the goal was to transition each school garden to a long-term mentor from their local community, with emphasis on connections to local farms. These local farmer/horticulturists assist with technical skills to succeed in future years from planting to harvest. These long term garden mentors are given a mentoring manual, follow-up support, how-to resources for garden-based and nutrition education, and opportunities for training related to garden-based and nutrition education.

In 2014, the garden mentoring handbook developed in 2013 was rewritten, using the experience of the past two years to create a useful tool for those assisting school garden educators. It has been enhanced to provide information and resources for long-term support as well as the steps schools are advised to go through in starting their gardens, and also familiarizes mentors with MAC and other resources they can use when working with schools. It looks at how to establish a successful mentoring relationship with a school, and gives examples of written agreements and expectations. It includes check-lists of areas to consider when starting a garden for easy use by a mentor, and resources and support in working in a school institutional environment for people who may not be familiar with it as they do not work in a school themselves. It familiarizes mentors with areas of learning they will need to address when transitioning their gardening knowledge in a sunny home garden to the more challenging environments that exist in many school gardens. It also covers documentation and other areas of reporting such as our pre and post test, and communicating with MAC.

In 2014, MAC also provided mentoring for twenty new school gardens. The process of applying to be a mentored school was further formalized and the on-line mentoring

application on the MAC website was edited based on feedback from teachers. The application asks schools to have achieved a certain level of commitment and support, as well as planning.

Some of the key benefits of the school garden mentoring program include: direction, support, buffering staff transition, re-vitalizing burnt out garden programs, curriculum integration help, networking between schools, targeted materials in an overabundance of information and resource identification.

While we mainly work with schools just starting out, we have also found the program very valuable in helping schools through staff transitions, and re-vitalizing their gardening programs. Our function of school garden networking is also valuable for schools as we work throughout the state.

The mentoring program has been successful in working with teachers in varied capacities in their school garden programs. When schools are starting up, teachers have found it valuable to work with us on figuring out a direction, which resources they need to access, finding out about what other schools are doing, and being able to come to our conferences to network with other schools. We also work with them closely in their planning process and what steps to take first in building a strong program. Sometimes our work is putting the brakes on their implementation, as we encourage them to build a foundation of support before they begin.

Most schools struggle with integrating their curriculum into their garden activities. Some elements that we find really help school gardens in this include creating outdoor seating, building class by class or grade by grade beds, and focusing on developing one activity and related lesson per grade to start, to be repeated and improved upon each year, so that there is whole school involvement. Teachers have also benefitted from our garden lessons for this. Our start -up, summer care guide, fall gardening, and selecting the crops guides are also shared often with schools along with many others including seeds and compost.

Our new 2014 mentored schools have gotten off to a great start. Most planted a garden in 2014 and many were able to come to our seasonal conferences and learn from our last year's schools in our panel discussions! Follow-up support for these 20 mentored schools continued in 2015.

Watertown High School was able to grow from an overgrown weedy courtyard at the center of the school to a lush and productive garden. As the site is so visible, but also very challenged with light, we worked with them closely to design a garden focused on flowers, but also with productive vegetable raised beds placed in the sunniest part of the courtyard. Despite a uniquely challenging location (they had to bring all materials down stairs and through the school) they have had a lot of success. We worked with them to reach out to

local business, and they got a lot of great donations. Teachers Nancy Dow and Raymond Fox have worked closely with their students to build the beds, as well as start seeds indoors, and use the garden in their lessons and with their occupational therapy students. The school population as a whole has given great feedback on the view from the lunch room, and other teachers are slowly starting to use the garden with their students also. Challenges moving forward include getting more teachers to use the garden, and setting up a better summer care system, as well as setting up a larger garden committee for support.

When we first visited Hyannis West Elementary School, they had an empty space in the school courtyard chalked out. We worked with them closely to determine what elements to incorporate into their garden plan. We worked via e-mail over the winter, and by the next time we visited the site they had installed 10 raised beds and a fence! This dramatic transformation was not the end, as they quickly started incorporating perennials into the garden. We are working with them now with ideas for more teacher involvement and additional elements to add to their garden to encourage classroom participation. We are working with them to turn their garden into more of an “outdoor classroom” with seating and designated beds for each teacher and grade, elements we have found successful at other schools. We are also working with them on planning a garden open house, and narrowing down their interests into one lesson and related activity per grade for next year.

The Cunniff Elementary School in Watertown is taking over a small shady garden in a courtyard, and developing a garden program that will utilize the landscape of the school. Working with a landscape architect parent, they are working to create different outdoor “spaces” that teachers can utilize. These include a reading garden, and outdoor stage, outdoor chalk boards and seating. Their strategy is to create a classroom and sensory play space. We are working with them on developing school wide curriculum and after school programming.

The Auburn High School garden is off to a great start with raised beds and soil and they are integrating the garden into their science curriculum extensively. Their biggest challenge is learning about productive gardening, what to plant when, guidance in soils, mulch, etc. We are continuing to work with them on garden planning and soil amending.

At the Sizer School in Fitchburg, we are working with the Biology teacher on designing gardening space for their new building. They have been given the whole landscape to work with, and she is rather overwhelmed, so we are working with her to do strategic long term planning and setting goals on what to do first. So far, she has come up with garden themes for different subjects and grades, including: a “Wildflower Garden” [8th grade science], an “Art Sculpture and Landscape Garden [Art Classes], a “Literacy Connection Raised Bed Vegetable Garden” [7th grade English and science], a “Stress Relief Sensory Garden” [Counseling Groups] and an “Edible perennial fruit garden” [first

generation college seekers.] We are also working with her on developing a garden committee and incorporating maintenance into these gardens from the start.

At the Wang Middle School in Lowell, the garden is run by a sixth and seventh grade science teacher. They currently have seven raised beds and she has had success working with her students in the garden. We are working with her to integrate the garden into more classrooms and lesson plans. We are also working with her on getting families involved with the care of the garden throughout the summer months.

The science teacher at the Mary A. Dryden Veterans Memorial School in Springfield started with a weedy square at the back of the school that had been put in and then neglected, after the Tornado in Springfield destroyed a whole wing of their school. We are working with her and an active PTA to start the garden from scratch and develop all aspects of their garden program. They expect to start planting in the spring of 2015, so mentors are working with them currently on planning.

Mill Pond School in Westboro has two large raised beds behind the school that were built and then failed as a garden where nothing grew, then abandoned. After telling them to soil test, they discovered what poor soils they had, combined with overhanging trees and lack of watering. We are working with them to plan their garden program - both theme beds for selected classrooms, and also how to improve their soil, set up irrigation, and prune their trees so things will be able to grow.

The William E Russell School in the Dorchester section of Boston has an established garden that has been taken over by a new inexperienced teacher when the past leader retired. This is an example where we have seen that the MAC mentoring program can be key in keeping a garden going, as this transition can be rocky. We are helping her with garden planning and curriculum primarily, as well as step by step support on how to plant things and how to garden in general. We are also working with her to find more local garden volunteers to help her with these things.

The Berlin Memorial School now has four raised beds located on a large sunny lawn behind the school and very visible from the driveway that leads to the main entrance of the school. The beds were planted early enough that some vegetables were good sized by the summer. We are working with them to make better connections to their local farms who are willing to help, and to work on gardening skills.

At Springfield Central High School the biology teacher is creating raised beds in a newly renovated courtyard, and a rainwater collection garden. We are working with her on all steps of garden planning.

Many teachers feel isolated in their school garden work, and appreciate greatly the chance to get support and have someone they are working with face to face, at the other end of a

phone line or e-mail as they navigate the project of a school garden. Some comments from teachers:

“...I am so grateful for all the great advice, the helpful links and the words of support you have offered over the year as our mentor. I look forward to many more years of learning and growing with the help of MAC” – Hyannis West Elementary

“Thank you again for a productive meeting! It is so nice to meet with you. I truly appreciate your support and great ideas. I am not alone!!! YAY! Thank you!” - Watertown.

Pre and posttest assessment tools were distributed during the year 2014 to collect information on knowledge and attitudes for both the garden leaders and the students. This test for garden leaders was designed to cover basic gardening information and ways to get resources that help school garden leaders. The test for students covered recognition of Massachusetts vegetables, as well as their experiences eating vegetables, and their knowledge of farms and farmers markets in their community. These tests helped us evaluate what schools in our program were learning and doing. They also acted as guides for schools in areas they should cover in their garden program. The pretests were administered in the spring and summer of 2014 and the post tests were administered in the fall. The data was then tabulated.

During the fall of 2014 and spring of 2015, MAC connected with the garden educators at these mentored schools to review their success in planting a school garden and then carrying through to a successful harvest with their students. We also reviewed data collected from pre and post testing of both garden leaders and students to determine the increase in ability of students to identify Massachusetts specialty crops, as well as student ability to identify a local farm or farmer and the crops they grow.

Teachers who participated in the 2014 school garden mentoring program were also asked to track the snacks brought to school by their students for one week prior to beginning the garden-based education program. When the first season of the garden program was completed and crops harvested with tasting of fruits and vegetables, the teachers were again asked to track the snacks that students bring to school.

Initiative B.) Start-up Funding for Twenty School Gardens through Mini-Grant Vouchers to Local Horticultural Businesses:

Massachusetts Agriculture in the Classroom has a long history of providing assistance for school gardens across the state. Our Mini-Grant program was founded in 1994. Since then, we have funded 296 agricultural enrichment projects carried out by educators in classroom and school gardens across the state, for a total of \$222,000. Each proposal is reviewed by a Committee, and must connect to both agriculture and the curriculum standards. Each funded project must also submit a final report.

Our experience with these mini-grants has shown that just a few hundred dollars goes a long way towards providing the materials needed to enhance the educational experiences for students. Our school garden mentoring experience also tells us that one of the biggest challenges for a new school garden is the funding for start-up costs for building the school garden and purchasing plants, tools, hoses, etc.

In 2014, through this Specialty Crops Grant, we were able to provide 20 school garden mini-grants of \$250 each for the twenty new school gardens that were mentored for a total of \$5,000. The school garden mini-grants were awarded to these schools as vouchers to a local garden center, greenhouse, nursery or farm. We asked each school if they already had a relationship with a local farm. For those who did, we connected them to that farm by awarding the voucher to that farm, and asking the school to purchase the supplies at that site. For those school gardens that did not have a relationship with a local farm, we located that farm for them. In each case we called the farm, verified their membership in a local farm organization, and identified a person at the farm who would work with the school garden. Once the vouchers were issued, each school had one month to expend the funds. The invoices were sent directly from the farm to Massachusetts Agriculture in the Classroom for payment.

The schools were really excited at the opportunity to purchase the needed supplies and to connect with a local horticulture/farm business. The staff at the garden centers, greenhouses, nurseries and farms were absolutely delighted with the opportunity to develop a relationship with a local school. Once the project was explained they were more than happy to set up a system at their business whereby the teacher would be able to spend the funds and MAC would be billed. So many of these farmers also offered to provide additional support beyond the garden vouchers. The school garden mini-grant vouchers truly created the opportunity for successful partnership in addition to the sales generated at these local farms. In the spring of 2015, as we continue to work with these twenty school gardens for second year mentoring support, we will ask them about the usefulness of the grant funding and any relationships that developed with the farms.

Initiative C) Twelve Professional Development Workshops Taught by School Garden Educators Collaborating with Specialty Crop Farmers.

Massachusetts Agriculture in the Classroom is pleased to report that during the year, 2014 twelve Garden-Based professional development workshops were conducted for Massachusetts educators reaching a total of 530 educators. Four of the garden-based workshops were held during our Winter “Growing Minds Through Massachusetts Agriculture” Conference on March 8, 2014, which reached a total of 150 educators. An additional four workshops were conducted during our fall “Greening the School” Conference on November 8, 2014 which reached 115 educators. During both of these conferences, additional sessions also covered garden-based topics. Eight of these 52

workshops were supported by the Massachusetts Department of Agriculture through the Special Crops Grant 2013.

Two full day garden education workshops were held as part of our Summer Workshops on the Farm on July 17 and 22, with a dozen teachers in attendance at each.

In addition a full day Conference was held on August 5 offering 13 workshops focused on Curriculum Connections to the School Garden, 91 educators attended.

During the spring and fall, MAC organized two full Days of Garden Skills Workshops and Demonstrations for School Garden Educators held on farms. Each day offered hands-on demonstrations conducted by farmers and school garden educators, with a different workshop or demonstration starting each half hour. These full days of garden workshops and demonstrations were free to all garden educators and were very popular, with teachers coming from across the state to each Session. A total of 150 educators attended. The first event was held on April 27 at Tranquil Lake Nursery in Rehoboth and the second was held on October 25 at the Common School in Amherst in conjunction with Bramble Hill Farm, which lies adjacent to the School.

MAC met the objectives for the year 2014 by developing and conducting the twelve garden-based professional development workshops. MAC worked with school garden educators and project partners to plan the twelve workshops. Each workshop was taught by an experienced school garden educator and/or farm/horticulture educator. MAC conducted pre-and-post assessment at each workshop, using a quiz with ten true and false questions regarding materials that would be taught during the workshop. Participants were asked to complete the test before each workshop began and again afterwards. We also conducted traditional evaluation to determine the effectiveness of each workshop. As a part of these evaluations teachers were asked to rate the percentage of increase in gardening knowledge and comfort.

The following is a summary of the average percentage rating in terms of increase in skills level and comfort with gardening with your students as a result of the conferences and workshops.

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Two Summer Workshops on School

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Average Total: 59.66

The following is a summary of average increase in the pre and post test assessment for each of the

Twelve workshops conducted during the year.

Winter “Growing Minds through Massachusetts Agriculture” Conference

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Summer Conference Connecting the Classroom to the School Garden

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Fall Day of Garden Skills Workshops and Demonstrations for the School Garden

8. Pre Test at Beginning of 12 Workshops, Posttest

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Fall “Greening the School Conference”

9. Fall Planting and Extending the School Garden

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12. Using Worm Bins to Support Science

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The Project “Strengthening the Connections between the School Garden & Local Farms, Nurseries, Greenhouses and Garden Centers” supported school garden educators and specialty crops commodities. No other commodities were involved in the grant project.

Through this Project Massachusetts Agriculture in the Classroom worked with the Massachusetts Nursery and Landscape Association, Massachusetts Flower Growers’ Association and Massachusetts Farm Bureau Federation to identify local farmers that could be matched with school garden. All farms, garden centers and greenhouses that were linked to a local school through the school garden voucher program were required to be a member of one of these organizations. MAC also worked with all three organizations to secure long term mentoring support for each school garden.

4. Goals and Outcomes Achieved

Through the project “Strengthening the Connections between the School Garden & Local Farms, Nurseries, Greenhouses and Garden Centers”, Massachusetts Agriculture in the Classroom completed five deliverables in 2014:

- 1. Twenty educators who are new to garden-based education planned or established a new school-garden education program for their classrooms, with the support of garden mentoring and use of web-based guides and lessons provided by MAC.**
- 2. An additional twenty educators received second year support for their school gardens.**
- 3. Long-term mentors have now been, or are being located and trained to steward school gardening efforts at forty Massachusetts schools**
- 4. Twenty farmers made collaborations with one or more school-garden educators who are new to garden-based education to help support their school garden through direct sales and other support.**
- 5. Twelve garden-skills professional development workshops and demonstrations were conducted by school-garden educators collaborating with specialty crop farmers.**

Data was also collected to complete these five Goals and Measureable Objectives. The pretests were administered in the spring and summer of 2014 and the post tests were administered at the end of the growing season.

Goal # 1: To improve the success of school garden nutrition education programs in taking the garden full cycle from seed to harvest and eating with students.

Performance Measure: Number of school gardens educators who are new to garden-based education who establish a new school-garden education program for their classrooms in 2014, with the support of garden mentoring, vouchers and MAC's Web-based guides and lessons who plant a school garden and are able to maintain the garden through to a successful harvest with their students.

Benchmark: In 2012 and 2013, MAC worked directly with 40 educators to develop a new school-garden program. Sixteen of the educators mentored in 2012 initiated the new school garden that year with moderate success. The other four developed their new school garden in 2013, with one school expanded our mentoring support to start gardens at four schools in 2013. All of the school gardens mentored in 2013 have now established a school garden.

Target: In 2014, MAC will mentor twenty additional educators who are developing a new school gardens, we anticipate that of these 20 schools, all will be successful in taking the garden from seed to harvest in the first year with 65% of their crops.

Data Collection Plan: MAC collected data at the end of the season in 2014 on crops grown and harvest success. MAC also communicated with the 530 teachers who attended our workshops in 2014, and the more than 120 educators who utilized the school gardens at our forty mentored schools. We asked them about their school garden experience to determine how many developed a new school garden in 2014. In addition, we asked how many of these 650 educators planted a school garden with their students and were able to harvest foods that were served to the students. The results are below.

Summary Results: In 2012, Massachusetts Agriculture in the Classroom worked with 427 educators through garden-based workshops and an additional 20 schools and 20 school garden educators through direct garden mentoring. In 2013, MAC reached 489 educators through our workshops and worked with twenty schools from 2012 for a second year, and twenty new schools for 2013 through our garden mentoring, reaching a total of forty schools mentored during the year and more than one hundred twenty school garden educators. The increase in school garden educators reached in 2013 is from 447 school garden educators to 609 school garden educators trained or an increase of 36.2%.

In 2014, Massachusetts Agriculture in the Classroom worked with 530 educators through garden-based workshops and worked with twenty schools from 2013 for a second year, and twenty new school for 2014 through our garden mentoring. In addition, we continued our relationship informally with 2012 mentored schools, assisting with advice and support when asked, reaching a total of sixty schools mentored during the year and more than one hundred eighty school garden educators. The increase in school garden educators reached in 2014 is from 609 school garden educators to 710 school garden educators trained or an increase of 11.65%.

In the fall of 2013, MAC communicated with the educators reached through our workshops and mentoring to determine how many had been able to plant and cultivate a garden to harvest with their students with serving of foods from the garden. Of those who responded we were able to determine that (62) had existing gardens that they were working to expand and (88) had developed new gardens during the year 2013. All had been successful in bringing some crops to harvest and most had been permitted to serve something from their garden to their students (a few schools give to food banks). In some cases the teachers worked as teams, so more than one teacher represented the same school garden. An additional (140) educators hoped to start a garden in 2014 or later. This represents a 62 percent increase in expanded gardens in 2013 and a 69.5 increase in new gardens in 2013. Of these schools 86 % were successful in growing something in their school garden which students were able to eat, taking the garden full circle from seed to harvest and increasing nutrition.

In the fall of 2014 and spring of 2015, MAC communicated with the 710 educators reached through our workshops and mentoring to determine how many had been able to plant and cultivate a garden to harvest with their students with serving of foods from the garden. Of those who responded we were able to determine that (110) had existing gardens that they were working to expand and (96) had developed new gardens during the year 2014. In many cases the teachers worked as teams, so more than one teacher represented the same school garden. Most had been successful in bringing some crops to harvest and most had been permitted to serve something from their garden to their students (a few schools had to give to food banks or send the harvest home with students). An additional (65) educators hoped to start a garden in 2015 or later. This represents a 78 percent increase in expanded gardens in 2014 and a 9 percent increase in new gardens in 2014. Of these schools 82 % were successful in growing something in their school garden which students were able to eat, taking the garden full circle from seed to harvest and increasing nutrition.

Goal # 2: To expand awareness of Massachusetts Specialty Crops among students involved in garden-based education programs.

Performance Measure: Number of students involved in garden-based education program supported by mentoring - anticipated as 1200 in 2014.

Benchmark: Number of Massachusetts Grown fruits and vegetables that students can identify will be identified through the pre-test prior to garden-based education program

Target: To expand awareness of Massachusetts specialty crops by 100%.

Data Collection Plan: Students who participated in our garden-based education mentoring were asked to complete a pre and post test to identify the fruits and vegetables that are grown in Massachusetts. They were asked to identify them by name as well as to recognize them as they would appear in the store and in the field. How many have they eaten in the past? We anticipate as least a 100% increase in the ability to identify Massachusetts specialty crops. The pre tests were completed and we are now awaiting the results of the post tests from the teachers. We will report the results in our final report.

Summary Results: We anticipated as least a 100% increase in the ability to identify Massachusetts specialty crops. Ten of the twenty schools mentored in 2014 provided both the pre and post test results for their gardens. To do this they post tested in June for the spring gardens and in late fall for the fall gardens. When the results were tabulated from these 12 schools the percentage increase was 85%. In a few of the schools closer to Boston and in wealthier suburbs, the students were able to recognize most all fruits and vegetables before and after the school gardening experience.

	Pre Test	Posttest	Percentage
School 1	1	3	200
School 2	2	3	50
School 3	2	5	150
School 4	3	5	66
School 5	3	7	133
School 6	3	8	266
School 7	4	7	75
School 8	4	8	100
School 9	5	9	80
School 10	<u>8</u>	<u>10</u>	<u>20</u>
Total	35	65	85%

Goal # 3: To increase the consumption of Massachusetts Specialty Crops among students involved in garden-based education programs.

Performance Measure: Number of students involved in garden-based education program supported by mentoring - anticipated as 1200 in 2014.

Benchmark: The benchmark will be determined by the tracking the number of specialty crops snacks students bring to school prior to beginning the garden-based education program.

Target: To increase the consumption of Massachusetts Specialty Crops as snacks brought to school by 15 percent.

Data Collection Plan: MAC asked teachers who are participating in the garden mentoring program to track the snacks brought to school by their students for one week prior to beginning the garden-based education program. After the garden program was completed and crops harvested and the tasting of fruits and vegetables, the teacher was again asked to track the snacks that students brought to school.

Summary Report: During the year 2014, Massachusetts Agriculture in the Classroom continued mentoring the twenty school gardens that we formed a relationship with in 2013 and expanded to mentor twenty new schools in 2014 that were just starting a school garden. We asked educators involved in these school gardens to track the snacks brought to school by their students for one week prior to beginning the garden-based education program. Once the garden program was completed and crops harvested along with tasting of fruits and vegetables, teachers were asked to again track the snacks that students bring to school. In several of our city schools, students were provided with free breakfast and lunch, so most students did not bring snacks from home and thus data was impossible to collect. We received results from 8 teachers who had completed the pre and post testing. These teachers took two samples during one week in the spring and took another sample on two days during one week in June or the fall depending on the school garden. We anticipated a 15% increase in locally fruits and vegetables. The increase measured at the ten schools was 29.39%

	<u>Pre Test</u>	<u>Posttest</u>	<u>Percentage</u>
School 1	2	2	0
School 2	2	4	100%
School 3	4	4	0
School 4	5	6	20%
School 5	5	6	20%
School 6	5	8	60%
School 7	7	10	23.3%
School 8	<u>11</u>	<u>13</u>	<u>11.8%</u>

Total	41	53	29.39 %
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Goal # 4: To increase awareness of local farms and farmers that produce specialty crops for students involved in garden-based education programs

Performance Measure: Number of students who participate in the garden-based education programs supported by garden mentoring - anticipated as 1200 in 2014.

Benchmark: The benchmark will be determined by pre-assessment activity with students asked to identify the number of local farmers prior to the garden-based education program.

Target: To increase the awareness of local farms and farmers that produce specialty crops by 100% for students involved in garden-based education programs with vouchers and long-term mentoring.

Data Collection Plan: Students who are participating in our garden-based education mentoring were asked to identify their local farms and the crops that they grow through a pre-activity prior to beginning the garden-based education program. Following the gardening program, mentoring and activities connecting to local farms, they were again asked to participate in an activity to identify their local farm. We anticipate as least a 100% increase in the ability to identify a local farm or farmer and the crops they grow.

During the year 2014, Massachusetts Agriculture in the Classroom continued mentoring the twenty school gardens that we formed a relationship with in 2013 and expanded to mentor twenty new schools in 2014 that were just starting a school garden. The school gardens mentored in 2014 also received a \$250 voucher to a local farm, nursery or greenhouse business for the purchase of garden supplies, soils, plants, etc. A simple pre assessment activity was developed during the year to identify the number of local farmers prior to the garden-based education program. This test was administered to students at most of the school gardens during the year 2014. A post-test was administered either in the summer or in the fall. Our goal was to measure the increase in the number of local farms and farmers the students are able to identify following the garden-based education project. We anticipate as least a 100% increase in the ability to identify a local farm or farmer and the crops they grow. Twelve schools completed the pre and post testing and provided results. The total increase was 120% with most schools being able to identify the farm, nursery or garden center who contributed to their school. Many of these schools had asked students to write a thank you letter or create a garden sign to acknowledge the connection with the farmer.

	<u>Pre Test</u>	<u>Posttest</u>	<u>Percentage</u>
School 1	0	1	100
School 2	0	1	100
School 3	0	1	100
School 4	0	1	100
School 5	0	1	100
School 6	1	2	100
School 7	1	1	00
School 8	1	1	00
School 9	1	2	100
School 10	1	2	100
School 11	2	3	50
School 12	<u>2</u>	<u>4</u>	<u>100</u>
Total	9	20	122%

Goal # 5: To increase the gardening and nutrition knowledge of educators who already have a school garden or who are planning a new school garden education program

Performance Measure: Number of school gardens educators who attend professional development garden-based workshops with MAC who show improved knowledge in garden-based and nutrition skills.

Benchmark: In 2012, MAC worked directly with 427 educators through twelve professional development workshops on gardening and nutrition. Among those educators, both those new to gardening and those who already had a school garden, there was a 31.5 % increase in gardening and nutrition knowledge.

Target: In 2014, MAC will reach 450 educators through professional development workshops on gardening and nutrition. We anticipate a 20 % increase in gardening and nutrition knowledge among educators who have an established school garden and a 50% increase among those who are new to gardening.

Data Collection Plan: During 2014, MAC offered twelve additional garden-based and nutrition workshops that addressed common school garden obstacles and

supported successes. MAC collected data at each workshop on previous level of school-garden experience. During each workshop, MAC offered a pre and posttest to measure knowledge gained. The pre and posttest will also indicate school-garden experience so that we can separate the sample.

The following is a summary of the average percentage rating in terms of increase in skills level and comfort with gardening with your students as a result of the conferences and workshops

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Average Total: 59.66%

The following is a summary of average increase in the pre and posttest assessment for each of the

Twelve workshops conducted during the year.

Winter “Growing Minds through Massachusetts Agriculture” Conference

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Spring Day of Garden Skills Workshops and Demonstrations for the School Garden

5. Pre Test at Beginning of 12 Workshops, Posttest

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Two Summer Workshops on School Gardening

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Summer Conference Connecting the Classroom to the School Garden

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Fall Day of Garden Skills Workshops and Demonstrations for the School Garden

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Actual Increase in testing knowledge after the workshops:

Workshop	Pre	Post	Increase
Workshop 1	76.11%	90.00%	13.89%
Workshop 2	76.18%	91.81%	15.70%
Workshop 3	67.66%	88.36%	20.70%
Workshop 4	58.50%	79.33%	20.83%
Workshop 5	58.50%	72.86%	14.26%
Workshop 6	66.70%	84.50%	17.80%
Workshop 7	58.90%	86.33%	27.43%
Workshop 8	67.88%	81.00%	13.12%
Workshop 9	78.50%	87.60%	9.10%
Workshop 10	70.20%	86.70%	16.50%
Workshop 11	71.47%	88.29%	16.82%
Workshop 12	57.62%	68.83%	11.21%

Average Increase of 16.45%

The data shows a perceived increase for educators in skill level and comfort with gardening with their students of 59.66 % as a result of the materials learned in the conferences and workshops. It also shows an actual increase of 16.45% in knowledge gained following the pre-test and the workshop presentation.

5. Beneficiaries

The Project “Strengthening the Connections between the School Garden & Local Farms, Nurseries, Greenhouses and Garden Centers” directly supported classroom teachers and their students by providing tools to succeed with their school gardening and nutrition education efforts and connect to the local specialty crop farmers. More than five hundred and thirty teachers directly benefitted from professional development workshops held during the year 2014 and twenty schools received direct support through garden mentoring. These twenty schools represent an exponential number of teachers (120 in 2014) and students (1,400 in 2014) as the school garden program develops, expands and advances into future years.

The project also provided opportunities for teachers to learn about Massachusetts Specialty Crops and meet farmers, while gaining insights on these crops to take back to their classrooms and school gardens. Teachers met farmers and learned from them during the garden workshops. In addition, the twenty schools that were mentored in 2014 were directly connected to a local farm and farmer with school garden mini-grant vouchers for purchases of seeds, plants and other materials.

As more garden-based education programs are developed across the state, this project will also indirectly support the fruit and vegetable industry throughout the Commonwealth by building an awareness of the value of fruits and vegetables and the agriculture that supports these crops. As children increase their knowledge and consumption of fresh fruits and vegetables, as well as the connections to locally grown foods, they will learn to make choices about the foods that they eat at home and at school. They will also take these lessons home to their parents. Since these new attitudes about eating fresh fruits and vegetables can last a lifetime, there is potential to build an ever stronger interest and market for locally grown fruits and vegetables.

Finally, this project directly supported members of the Massachusetts nursery, garden center and greenhouse industry through school garden mini-grant vouchers of \$250 each to twenty horticultural businesses. These vouchers provided direct sales to these local horticultural businesses and will also offer teachers the opportunity to connect with these businesses for the long term support. These businesses will have the opportunity to receive additional revenue from sales to the school garden in the summer and future years as their relationship continues with each mentored school.

6. Lessons Learned

MAC's School Garden mentoring program completed its third year in 2014 and the mentoring program was much stronger this year. In 2014, we were much more successful in collecting assessment pre and post information from educators. Using the collected data we continued working to improve communication with our mentored schools in 2015.

The school garden mini-grant vouchers were a terrific addition to the program this year, and benefitted the mentoring experience in three ways. First, it helped the school garden educators to succeed by providing funding for seeds, plants, tools and other materials. Secondly, the school garden mini-grant vouchers gave Massachusetts Agriculture in the Classroom a "carrot" that we could use as leverage to encourage the school garden educators to complete the pre and post testing. Teachers are very busy people and it very difficult to add something new to their workload. The school garden mini-grants provided the incentive. In 2014, we received the highest rate of pre-test results. The post test results were comparable with previous years. Finally, the mini-grant vouchers were successful in connecting these school garden educators to a local farm, since they had to travel to the farm to buy the materials. So many of the horticulturist/farmers were quite excited about the connection and planned to work to make it a long term linkage. Students also learned about the farm connection and could share that information with their families.

After a successful year of school garden mentoring, MAC is now even more strongly positioned to roll out the next phase of school garden mentoring. Based on the feedback from 2014 school gardens, our experience, and the successes we have seen, we will be able to target our assistance moving forward for even greater success. Working with schools step-by-step to implement specific garden plans, grade by grade, attached to favorite lessons, will create a clear road-map for new school garden programs. Based on our experience mentoring schools, we will be able to support many more schools in doing these activities, and share improvements between schools year to year.

Going forward we will strive to further meet the needs of the teachers who are working to educate students in the school garden. So many of them are asking us for strong curriculum connections to support their school gardens and link them to the education that is taking place in the classroom. We will continue to offer school gardening workshops connected to the curriculum and will also develop new lessons tied to the Core Curriculum Standards and STEM for all grades. These lessons will be posted on our website.

Contact Person

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Additional Information

School By School Status

Please see our blog for some pictures of the great work these schools have been doing:

<http://macschoolgardennotes.blogspot.com/2014/11/innovative-ideas-from-mac-mentored.html>

Organization: Sustainable Business Network

Project Title:

Buy Local Trade Show: An Effective Model for Increasing the Sale and Purchase of Local Specialty Crop Products

Final Report:

FY13 12-25-B-1676

1. Project Summary

While considerable progress has been made, within the buy local movement in Massachusetts, New England, and across the nation, there still exist a number of significant barriers to full integration of local specialty crop items into the supply chain of food vendors—restaurants, retail and wholesale grocers, specialty food manufacturers, institutions and others. Barriers vary for buyers and sellers of specialty crops, but range from issues related to economies of scale to seasonality to sometimes real but often only perceived limits of availability of products or buyer interest in New England. These barriers are inhibiting the expansion and integration of specialty crop sales across Massachusetts. We believe that by fostering dialogue between the two parties, growers/producers and buyers, many of these barriers can be addressed, alleviated and potentially overcome, while new relationships and resources for the local food movement can be formed.

By hosting a third Buy Local Trade Show, this time named “Local Food Trade Show” the Sustainable Business Network of Massachusetts was giving specialty crop growers and buyers the space and opportunity to address these barriers, while establishing new business partnerships and fostering the sales of specialty crops across Massachusetts. By understanding the needs of buyers seeking local specialty crops in greater detail, producers can be better prepared for crop planning with the potential for guaranteed or increased sales.

The 2014 Trade Show was building upon the success of our 2010 and 2013 Buy Local Trade Shows and continued to leverage the relationships and resources developed, while continuing to engage with our ‘buy local’ partners to further integrate with additional specialty crop growers and buyers. Our goal was to broaden the engagement and impact of the previous events.

2. Project Approach

- a. The purpose of this project was to host a Trade Show that brings together local specialty growers and producers and wholesale buyers seeking to source more local products. The event aimed to address and overcome barriers to specialty crop grower and buyer collaboration including quantity, availability, and cost to establish new business partnerships between local specialty crop growers and buyers and increase the sales of specialty crop products in Massachusetts. To this end, specialty crop producers were invited to present and sample their products to an audience of interested retail buyers looking to source more local food.
- b. Since this Trade Show was not limited to solely specialty crop producers, we ensured that grant funds were not utilized to benefit other represented commodities including dairy, meat and other non-specialty crop products. A \$100 participation fee was instituted for non-specialty crop exhibitors, while specialty crop producers were able to exhibit for free. We also reserved spaces for specialty crop producers, and created a waiting list for non-specialty crop producers. In this way, we limited the number of non-specialty crop producers at the event and gave priority to specialty crop producers. It was felt that by also inviting non-specialty crop producers, the event would attract a greater number of interested buyers and therefore also benefit exhibiting specialty crop growers/producers. Buyers were charged \$25 to attend. We were also able to engage a few small-scale sponsors for the event. Together, these extra streams of income covered our program costs of coordinating these vendors and participants.
- c. The Sustainable Business Network of Massachusetts worked closely with project partners including 'Buy Local' groups from around the state, including the Massachusetts Department of Agricultural Resources (MDAR), Southeastern Massachusetts Agricultural Partnership (SEMAP), Community Involved in Sustaining Agriculture (CISA), and others, as well as the Northwest Atlantic Marine Alliance (NAMA), Health Care Without Harm, and The New Entry Sustainable Farming Project. Partner organizations supported the project by promoting the event to their networks (producers and buyers), and supporting SBN in shaping the event seminars and finding knowledgeable facilitators and panelists.

Summary of Activities

Growers/producers and vendors/buyers were recruited from across the state and from New England to participate in this event, with a focus on specialty crop promotion and sales. Specialty crop producers were recruited for and engaged beyond this event in a number of ways, including:

- Direct e-mail invitation through event lists including our previous Buy Local Trade Show and Seminar in 2010 and 2013 as well as our farm and specialty crop producer outreach list used for our Boston Local Food Festival and ALLocal Dinner series.

- Direct e-mail invitations and newsletter blasts through Buy Local partner networks, totaling more than a few thousand e-mail contacts reached.
- Attending the Winter NOFA Conference in Worcester, MA and directly connecting with over 40 exhibitors with ties to Massachusetts Specialty Crops and over 1,000 conference attendees.
- Website promotion of all of the Trade Show buyers and producers – they were listed on our website, which is hosted throughout the year to encourage additional business connections beyond the event itself.
- Listings in our Wholesale Local Buying Guide - Specialty Crop producers with an interest in selling wholesale are added to the Local Food Wholesale Buying Guide, which we host on our website and distribute directly via e-mail to interested vendors for our festival and other events to encourage the use of Massachusetts-based specialty crops.

Following the Trade Show, SBN compiled post-event survey results and shared them with event partners, e-mailed an updated buyer/producer directory to partners and all event participants, and added specialty crop producers to the 2014 Wholesale Local Buying Guide, a resource that is shared with vendors for all SBN events. Survey results are outlined below within Outcomes Achieved.

The Trade Show seminars were developed for both buyers and producers to maximize the relevant information, recommendations, and resources for each party. This year, the two seminars were held at different times – before and after the Trade Show part of the event - to allow producers and buyers to attend both if interested, which was a change in our program based on feedback from previous years. A knowledgeable facilitator set the stage for each panel that featured a panel of local food leaders with experience in selling or purchasing specialty crops. The focus of the seminars was to share success stories and specific strategies on how to make connections between buyers and sellers. The interactive format encouraged a lively exchange of questions and answers between panelists and participants.

Goals and Outcomes Achieved

Our goal was to engage a minimum of 25 Specialty Crop Growers/Producers from across Massachusetts and New England and a minimum of 50 wholesale Specialty Crop Buyers including restaurants, retailers, producers, institutions, and non-profits.

Our actual attendance and engagement included over 80 different buyer organizations and 31 specialty crop growers/producers. This surpassed our goals as well as our numbers from our successful Trade Show in 2013, when we were able to engage 53 buyers and 27 specialty crop producers. The event was able to attract 160 attendees, as many buyer organizations were sending more than one representative, and we also invited farmers market managers to attend for free. The noticeable uptake in buyer numbers indicates an increase in organizations that are looking for help in sourcing locally. A buyer/producer directory was

compiled, listing specialty crop products offered and sought, and shared with all participants, including those that couldn't make it to the event, and producers that felt that while they were planning to do so in the future, their organization wasn't at a point to do wholesale just yet.

The other major objective for this Trade Show was for 50% of participating specialty crop producers and buyers to form at least one new business partnership.

We learned through our post-event exit survey that specialty crop producers interacted with an average of 13 potential buyers at the Trade Show (up from 10.6 in 2013), a majority of them being retail grocers, healthcare institutions and restaurants, with 4 new business leads being made on average (up from 2.6 in 2013). We followed up again with all event participants six months after the Trade Show via e-mail and phone. Out of the specialty crop producers that directly participated in the Trade Show, 85% indicated that they had made at least one new business partnership (up from 33% in 2013). On average, specialty crop producers were able to establish two new business partnerships as a result of the Local Food Trade Show, clearly surpassing our goal for this event.

Specialty Crop buyers on the other hand interacted with 13 different producers on average as well, a majority of which were offering fresh fruits and vegetables or value added products made with 50% or more specialty crops. In our exit survey right after the event, 23% of buyers indicated they had established at least one new business partnership already. Moreover, on average, buyers indicated that they were interested in following up with close to 50% of all vendors they had connected with. When we followed up 6 month after the event 62.5 % of buyer respondents said they had formed business partnerships as a result of the event. On average, buyers established 1.5 new business partnerships as a result of the Trade Show. It has to be noted that half of those partnerships were formed with non-specialty crop producers. Nevertheless, our goal for this event was met and surpassed.

We were able to achieve all measurable outcomes promised for this project. Moreover, 100% of specialty crop producers said the event was beneficial to their business, and 83% said they would like to participate in another Local Food Trade Show. 93% of buyers experienced the event as beneficial for their business and 100% said they wanted to participate again in future Local Food Trade Shows.

Beneficiaries

The beneficiaries of this event include mainly Massachusetts and some New England based specialty crop growers and producers, potential specialty crop wholesale and retail buyers, and statewide 'buy local' groups. Our hope is that consumers also benefit from this event through increased access to healthy local food in their local retail grocers, restaurants, cafeterias, etc. Also, the number of visitors with an interest in our local food system to our

website as well as of participants in our other SBN local food events that are more consumer oriented, is constantly growing.

Through the Local Food Trade Show, specialty crop growers and producers are gaining increased exposure for their products and services, which may lead to increased sales across the state. They also benefit by developing a broader network of fellow specialty crop growers to learn from, as well as a group of potential buyers that they have more personal connections with, making it easier to develop long term business relationships. Buyers benefit from participation in our event by gaining a better understanding of specialty crops and specialty crop products available within the region along with developing strategies for purchasing specialty crops retail or wholesale. They also benefit from a broader network between other buyers, creating a more coherent learning action network to create efficiencies for purchasing more specialty crops. This event also helps them to meet the growing demand for specialty crops in the marketplace.

Our partners benefit by increasing exposure to markets for their members or networks of specialty crop producers and buyers. By supporting events like this, they are strengthening the brand of ‘buying local’ for consumers of all levels, from individual consumers, to larger institutional marketplaces. They also gain exposure via our event outreach, website, promotional materials, a vendor space at the event to network, as well as access to data generated by the event related to specialty crop sales and best practices.

Lessons Learned

By hosting the Buy Local Trade Show for a third time, we have been able to reinforce our understanding for the importance of this event to specialty crop growers, producers and buyers. Like last year, we found that there is a strong interest in the networking portion of the event. Specialty Crop vendors identified networking with buyers as the most valuable aspect of the event. Tabling was ranked second, networking with fellow producers third, followed by the seminars. The topical seminars still were very popular and were both attended by close to 100 participants each. Comments we received after the seminars made it clear though that with such a diverse group of buyers and producers (size products, business type, etc.), it is challenging to offer a seminar that addresses everyone’s needs. Hence we are in the process of conceptualizing smaller more focused breakout groups for future Local Food Trade Shows. One lesson we learned from the seminars and surveys is that there is a felt need for distributors that can gap the bridge between local food producers and interested buyer organizations. SBN will aim to engage a larger number of distributors in future Trade Shows, and to give them a platform to introduce themselves and their services to producers and buyers.

In the past, one of our greatest challenges has been collecting quantitative data to illustrate the growth in specialty crop sales. In 2014, we conducted three different comprehensive surveys.

- **An intake survey coupled to the event registration, gathering information about the farms, businesses and organizations participating, including products buyers are seeking, etc.**
- **An exit survey distributed and collected at the event, collecting information about the number of potential business partners met, and general satisfaction with the event and seminars.**
- **Finally, a post event survey conducted six months after the event to determine the number of actual business partnerships formed as a result of the event.**

The intake survey was mandatory to register and therefore had a 100% response rate. It revealed that the largest buyer groups attending were retail grocers (19%), restaurants (15%), healthcare facilities (12%) – thanks to our strong partnership with Healthcare without Harm, and distributors (11%). While the event featured both specialty crop and non-specialty crop producers, the product type most buyers were interested in were fresh fruits and vegetables (75%), followed by dairy products (70%) and value added products made with more than 50% specialty crops (64%), showing a strong interest in specialty crop products among attending buyers. Interestingly, buyers identified “availability/finding local vendors” as by far the most pressing barrier in sourcing more local food (42%), illustrating the need for projects like the Local Food Trade Show. Affordability/price came in second (22%) and distribution/delivery/logistics third (10%). Specialty crop growers and producers identified distribution/delivery/logistics as main barrier (42%) with finding buyers/making connections being named as the second important barrier in selling more products wholesale (26%), and pricing/capital coming in third (22.6%). The difficulty of buyers to find local suppliers points to an increased interest in local specialty crops among wholesale buyers. SBN will hence aim in engaging more and new specialty crop growers and producers prepared to sell wholesale in future Trade Shows to address this demand.

The exit survey yielded a response rate of 52% among producers and 38% among buyers. Results are discussed in the Outcomes and Goals Achieved section.

The post event survey proved to be more challenging, since response rates were lower (28% for buyers, and 42% for specialty crop producers), while getting responses required much more effort. Also, many of the participants called, indicated that they did not have a full recollection since a considerable time had passed since the event. This was especially true for buyers. Hence the results of this survey are less robust. Some participants also mentioned that the amount of surveys conducted was a little burdensome. For these reasons SBN is planning to conduct the follow up survey for future Trade Shows sooner.

As in the years past, growers have a strong interest in being listed in our Wholesale Local Buying Guide in order to continue the exposure to their business for wholesale and retail

buyers, and SBN has had hundreds of restaurant and prepared food vendors access this list since March of 2014, with new producers being listed in the guide yearly. This guide, together with the event participant directory, partner outreach, email and phone follow up, and our event website, was effective in supporting event participants before and after the Trade Show. It is our hope that this resulted in a positive gain towards increased specialty crop sales and decreased barriers in the state of MA. The USDA, Ag Census data from 2012 indicate that in Massachusetts 13% of all farms sold all or some of their products directly to retail outlets, ranking 6th across the nation. While there is still a lot of potential for growth, it also shows the effectiveness and success of the Buy Local groups in the state. The national average is only 2.3%. The sale of all specialty crops had grown from 2007. We hope to see even higher numbers in the next census report.

Overall, our Local Food Trade Show 2014 was received extremely well among both producers/growers and buyers, which reaffirmed the need for its existence.

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Organization Name:

Tufts University

Project title:

Addressing Sales at Massachusetts Farmers' Markets by Examining Perceptions of Produce Attributes among Producers and Shoppers

Final Report

1. PROJECT SUMMARY

1. a) Background of the initial purpose of the project, including the specific issue, problem or needs that was addressed by the project.

Farmers produce and sell a wide variety of produce at farmers' markets, and presumably hope to optimize sales via prices received and volumes sold. But there is little research as to how well producers' and shoppers' perceptions of farmers' market produce match up, and evidence is scarce to demonstrate that growers provide what customers are most willing to purchase. Many area producers do try to differentiate their offerings from what the mainstream markets offer, by growing diverse varieties and by emphasizing ripeness, flavor, and selection at the markets. But across a range of produce attributes, they may not know their customers' priorities, and this may result in suboptimal sales, lower prices, and unsold products.

These disconnects may arise because there are so many distinct produce attributes, including varieties, freshness, visual appeal, size and shape, maturity, sensory elements, flavors, nutrition, health, pre-processing, packaging, and production methods. This pilot project was designed to evaluate this aspect of local produce marketing, focusing on three types of specialty crops typically sold at farmers' markets across Massachusetts. It was a preliminary investigation to determine the extent of such discrepancies, and the overall potential marketing and financial impacts to Massachusetts specialty crop growers.

1. b) Description of the importance and timeliness of the project

The number of farmers' markets across Massachusetts has grown from a handful in 1980 to 256 in 2015. Total sales are unknown but are in the many millions of dollars. Farmers' markets have become an essential marketing venue for small and beginning growers as well as mid- to larger producers. While they offer diverse product selection, fresh produce is the centerpiece of what is available, and in terms of their integral identity as venues for local farm products.

Over time, the diversity of types and varieties of produce grown and sold at these markets has expanded. Nonetheless, little research has been carried out to examine the specific attributes of produce that appeal most to shoppers, the extent to which producers are aware of and respond to those preferences, and whether and how these differ between the two groups. Differences in preferences with respect to visual and organoleptic characteristics, including appearance, sizes, and perceived flavors may influence the types and volumes purchased by shoppers, and subsequently the revenues realized by growers. Consumer preferences can also influence the volumes and varieties of produce grown and offered for sale in the future.

1. C) If the project built upon a project that previously received Specialty Crop Block Grant, describe how the project complemented and enhanced previously completed work.

Not applicable

2. PROJECT APPROACH

2. A) A brief summary of activities performed and goals and / or targets achieved throughout the entire grant period. This should represent the activities/ goals and targets specified in Attachment B: Work Plan

Key activities accomplished:

A. Produce items and produce attributes:

- The three categories of produce selected for assessment were (a) heirloom tomatoes, (b) salad greens / lettuces, and (c) sweet or bell peppers.
- Lists of produce attributes were developed via reviews of the literature, produce seed catalogues, and other sources, and classified into categories reflecting sensory / organoleptic categories and other features, such as production methods and source. Attributes relevant to each specialty crop were selected for inclusion in the surveys.

B. Surveys of shoppers and farmers:

i) Preliminary Interviews:

- The five farmers on the project advisory committee were interviewed to get input on developing the research questions from larger and successful producers who sell at multiple markets.
- Two graduate students held a focus group with Friedman School students to get input on survey design and content for shopper surveys.
- A telephone-based focus group was conducted with six shoppers at farmers' markets across Massachusetts to get input on the design and content for shopper surveys.

ii) Survey design: A methodology to survey shoppers and farmers was chosen that most efficiently captures the information being solicited. It consisted of a ranking exercise to determine which attributes of the product positively and negatively influence the respondents' decision-making when purchasing or selling produce at the farmer's market.

C. Surveys:

i) An online survey sent to people who shop at farmer's markets statewide resulted in 291 responses were valid and useable for analysis

ii) An online survey sent to over farmers selling at farmer's markets across Massachusetts garnered 35 responses that resulted in 29 usable surveys.

D. Additional qualitative interviews:

- 97 sets of onsite interviews were made with xx shoppers at 4 area farmers markets, using produce displays, and having them selecting and discussing + and – attributes for three types of specialty crops.
- Extensive Phone interviews were completed with 13 farmers who sell at farmer's markets around the state - focus on produce quality, especially flavor and texture attributes
- Interviews were carried out with 20 participants at Allandale tomato tasting event, focus on produce quality, especially flavor and texture attributes

E. Analysis of data: Surveys and interview findings were compiled, cleaned (as needed), and analyzed.

F. Findings: Findings were compiled in charts and reports; included with this report.

G. Dissemination of research: Once submitted and approved by MDAR, this report will be circulated to farmers who participated in the research, and more broadly to members of the agricultural community across Massachusetts. The study is also being written up for submission to a peer-reviewed journal, which will be more widely circulated once published.

2.B) If the project benefited commodities other than specialty crops, indicate how the Contractor ensured that grant funds were used only to enhance the competitiveness of specialty crops.

Not applicable – only specialty crops were studied.

2.C) A summary of the contributions and roles of project partners.

The main partners were:

- A. Mass Farmers Markets (FMFM).** They provided outreach to hundreds of farmers and thousands of farmers in their databases to solicit responses to surveys and to be interviewed. The Ex. Dir. also served on the project advisory committee.
- B. Farmers who sell at MA farmers markets:** There were four farmers who served on the advisory committee and provided ongoing input; a fifth hosted interviews with shoppers at his farm stand. Many other farmers also provided input via lengthy telephone interviews.

3. GOALS AND OUTCOMES ACHIEVED

3.a.) A description of the activities that were completed in order to achieve the performance goals and measureable outcomes identified in Attachment B:

- A. Four Tufts graduate students were hired to work on the project. The students conducted background research and interviews with farmers and shoppers, compiled and analyzed the results.**
- B. Professor Sean Cash at the Friedman School joined the project and provided valuable guidance on the survey design and methodology in particular. Professor Ellen Messer also joined the project to provide cultural / anthropological perspectives.**
- C. Four experienced farmers and the FMFM Executive Director were interviewed for input on farmer decision-making related to crop selection and marketing.**
- D. A review of the literature identified produce attributes and factors related to consumer and producer decision-making regarding growing and selling fresh sales at farmers' markets. Depending on the particular produce item, there were more than 60 attributes, including credence factors that can be used to characterize any specific fruit or vegetable.**
- E. After reviewing seasonality issues, the decision was made to drop apples due to their late-season availability, and instead make sweet or bell peppers the third specialty crop to be evaluated, in addition to tomatoes and salad greens. With respect to tomatoes, the varieties were narrowed to heirlooms. Heirloom tomatoes have many**

distinct characteristics of relevance to the study that justified focusing solely on those varieties, while avoiding other varieties that have different characteristics and could result in confused or contradictory responses.

- F. Interview and survey protocols for farmers and for farmers' market shoppers were developed. All of these were sent to Tufts IRB for review and were approved. Relevant interview protocols and survey instruments are included as attachments to this report.
- G. FMFM contacted farmers and shoppers within their databases and solicit their participation in focus group interviews. Although more than 20 agreed to take part, only six shoppers participated then a telephone-based focus group that address preferences four various attributes pertaining to produce purchased at Massachusetts farmers markets.
- H. **An initial list of produce characteristics was compiled and categorized as follows. From this list, attributes were used to develop interview questions and surveys.**
 - 1. **Consistency and variation: uniform attributes, predictable qualities, prices, and varieties**
 - 2. **Varieties: conventional, heirloom, ethnics, purpose (e.g., eat fresh or can), and diversity**
 - 3. **Health and safety: nutrients, freshness, ripeness; Safety issues – insects, chemicals, rot**
 - 4. **Freshness: shelf life, integrity: cooling, quality control, handling, ripeness, and maturity**
 - 5. **Visual characteristics / appeal, appearance / condition: color, size, shape, patina, Blemishes, and defects, trimming presentation, packaging, grade, cleanliness**
 - 6. **Preparation / minimal processing / convenience: pre-processing, packaging**
 - 7. **Sensory or tactile eating qualities: soft / hard; aroma. Seeds; texture; juiciness, firmness**
 - 8. **Flavor / taste: specific flavor; intensity; ripeness, sweetness; sourness**
 - 9. **Sustainability / environmental: Eco-labels, IPM, organic, local varieties**
 - 10. **Pricing: differential across vendors and grocery stores; and by variety and quality factors**
 - 11. **Familiarity: conventional, ethnic, particular variety; new item status**
- I. Produce ranking surveys were developed for each of the three specialty crops selected.
- J. The produce ranking survey was sent to more than 600 farmers in FMFM's database. There were 35 responses, of which 29 ended up being usable.
- K. At four farmers' markets over 6 occasions, 100 shoppers were interviewed to identify most preferred and least preferred attributes for the three specialty crops that were in the study. Each time, an array of produce was displayed that demonstrated various attributes related to color, size, shape, freshness, blemishes and other damage, packaging and variety.

Interviewees were asked to identify which items they most or least preferred, and to explain why. In aggregate, 21 usable surveys were completed for peppers, 37 for greens, and 44 for tomatoes.

- L. Responses to all interviews and surveys were compiled, analyzed, and reviewed. Key results and findings are enclosed in this report.

- M. Marketing and economic assessment of findings for Massachusetts producers: Some distinct marketing recommendations emerged from the analyses (see ahead). However, given the preliminary nature of this research, the unavailability of farmer's market sales data and the degree to which farmers may alter production and marketing decisions, the potential economic impacts or benefits could not be calculated at this juncture.

- N. Efforts to expand the project to cover more crops, producers, and markets have not resulted in additional funding as of yet.

- O. **Dissemination of findings:** This report will be sent to all producers involved in the research who can be contacted. Subsequent publications reporting the research and findings will be made widely available to Massachusetts farmers and farmers' markets. In addition to this report, a publication is in progress for the the *Journal of Agriculture, Food Systems, and Community Development*, and a shorter 'lay' piece for the broader agricultural community in a regional farming publication.

3. B: If the outcomes measured are long term, summarize the progress that has been made toward their achievement.

Outcomes are short-term; this was a pilot study.

3. C: A comparison of actual accomplishments with goals established for the grant period:

- The goals with respect to the study itself – development and implementation – were achieved or exceeded.
- Dissemination of the findings is not yet complete, as per above.

3. D: Illustration of baseline data that has been gathered to date and the progress towards achieving set targets.

See report attachment: "Illustration of Baseline Data"

3. E: Summarize the major successful outcomes of the project in quantifiable terms.

Overall goal: Expand the volumes, prices, and sales revenues received by MA farmers for specialty crops they grow for and sell at MA farmers' markets by at least 10%. This is a

long-term objective beyond the time-frame of this pilot project. The pilot project outcomes are included in the above-referenced attachment.

4. BENEFICIARIES

- a) **A description of the groups and other operations that benefited from the completion of this project's accomplishments.**

This information can be used by farmers and by market managers to improve the marketability of produce according to these findings, such as:

- Decisions by farmers as to produce items and varieties to grow for farmers' markets;
- Decisions on selling produce that has natural defects such as cracks, blemishes, odd shapes and sizes;
- Strategies by farmers to make / keep produce looking freshest at the marketplace;
- Preparation of produce to enhance appeal – including trimming, cutting, cleaning;
- Messaging to promote and better inform customers about specific varieties and their attributes, and other product attributes, including production methods;
- Signage to similarly expand customer awareness and appreciation of the produce attributes they are selling;
- Better pricing strategies for premium quality produce.

- b) **State the number of beneficiaries affect by the project's accomplishments and / or potential economic impact of the project.**

The potential pool of beneficiaries is all farmers who sell produce at Massachusetts farmers' markets, and all those residents who purchase produce at these markets.

5. ILLUSTRATION OF THE LESSONS LEARNED AS A RESULT OF COMPLETING THIS PROJECT

- Attribute disparities: Among all the attributes compared for each of the three specialty crop categories, there were disparities between shoppers' and farmers' preference and avoidance priorities; however, not as many as hypothesized. Nonetheless, there were other unanticipated findings that enhanced the overall scope of outcomes / findings that resulted from the research.
- This was a far more involved and complex project than anticipated;
- A lot more similar research on other attributes and products could be beneficial.

Goals and Outcomes Achieved:

3. d: Illustration of baseline data that has been gathered to date and the progress towards achieving set targets.

3. e: Summarize the major successful outcomes of the project in quantifiable terms.

Objectives:

This is the preliminary phase to develop evidence concerning production and purchasing decisions by farmers and shoppers at farmers' markets associated with their prioritization of produce attributes of three specialty crops.

Goal: Determine the 4-5 most salient features for each of three specified specialty crops (local tomatoes, field greens and apples) sold at Massachusetts' farmers markets that are differentially preferred by farmers and shoppers.

Performance Measure: Demonstrate significant differences in preferred attributes for three specialty crops between producers and shoppers at farmers' markets that could have substantive impacts on total volumes sold and prices charged for those products.

Data Collection Plan: This is a first-stage assessment to identify the extent of prevailing conditions (mismatched perceptions of preferred specialty crop attributes between farmers and shoppers).

- Baseline quantitative and qualitative data on production, harvesting, and marketing strategies for the three specialty crops, as well as metrics on volumes, prices, and waste, will be collected via interviews and surveys from 20-25 participating farmers during the project period
- Similarly, quantitative and qualitative data on purchasing decisions for the three specialty crops will be collected among ~150 shoppers.

- 1) Identify 5-7 key attributes for three crops that most influence what farmers grow and sell at Massachusetts's farmers' markets.
- 2) Identify 5-7 key attributes for three crops that most influence what shoppers purchase at Massachusetts farmers' markets.
- 3) Identify up to 7 differences in attributes selected by growers and shoppers for each crop.

+++++

Objective a): Identify and prioritize 20+ salient attributes for three specialty crops – tomatoes, apples, and salad greens that most influence what farmers grow for, and that shoppers purchase at 4-5 farmers' markets in Massachusetts.

These attributes are listed in the attachments that provide the survey instruments sent to farmers and to shoppers. Note: Apples were dropped in favor of bell or sweet peppers, and tomatoes were limited to heirloom varieties.

The data from the shopper and farmer surveys were analyzed to identify the most influential attributes for each group and to compare shoppers to farmers to determine if

there are discrepancies in which attributes each group considers most important. The average score and standard deviations for the ranking exercise results were determined for each attribute. A positive average score indicates that overall the attribute was preferred and a negative score indicates that overall the attribute was something people avoided. A smaller standard deviation indicates more agreement amongst respondents about the importance of the attribute while a larger standard deviation indicates that respondents might not all feel the same way about the attribute.

To compare shoppers to farmers, we calculated the difference between the average score for the farmer and the average score for the shopper for each attribute. A difference score closer to zero indicates that farmers and shoppers had similar average scores for the attribute. A larger difference score indicates areas where farmers and shoppers are in less agreement about how important they find each attribute. A positive difference score indicates that the attribute was less influential in farmer decision-making than in shopper decision-making. A negative difference score indicates that the attribute was more influential in farmer decision-making than in shopper decision-making.

The average scores, standard deviations, and difference scores were calculated for the individual attributes and as well as for groups of attribute that are in the same category such as texture or flavor.

Objectives b and c:

- b.) Via these findings, derive up to 7 characteristics or attributes for each of the 3 produce items that are most dissimilar between farmers' and shoppers' decision-making.** Rather than 7 dissimilar attributes, the preferences were compared in terms of top 5 positive and top 5 negative preferences.
- c) Assess the potential impacts of these dissimilarities for 25 farmers as to production decisions, harvesting and post harvesting; waste; overall supply and demand, and prices asked at farmers' markets.**

Survey Design: The online survey was mainly a ranking exercise to determine which attributes of the product influence the respondents' decision-making when purchasing or selling produce at the farmer's market. For each product, respondents were presented with a list of attributes. First, they were asked to select up to five attributes from the list that most influenced which products they prefer to purchase or sell at the farmer's market. Next, they were asked to rank the attributes they selected from the original list from *most important* to *least important* when making decisions about which products to purchase or sell. Then respondents were presented with the original list and asked to select up to five attributes that most influenced which products they avoid purchasing or selling at farmer's markets. Finally, they completed the ranking exercise for the attributes they selected as important to avoid. The ranking exercises allowed us to identify the most important

positive and negative attributes that shoppers and farmers consider when selecting produce to buy or sell at the market.

The survey also included a brief section on demographics and asked shoppers basic questions about their farmers' market shopping habits such as how long they have shopped at a farmers' market and how frequently they shop there. Farmers were asked basic questions about their selling habits such as how many varieties they bring to the market and how many markets they sell at.

From the master list, and following interviews and focus groups, ranking attributes were selected for each category: 24 for peppers, 34 for heirloom tomatoes, and 29 for greens. These were bunched into sub-categories that included color, uniformity, size, shape, method, flavor, cost, texture, damage

Objective d: Illustration of baseline data that has been gathered to date and the progress towards achieving set targets:

Results: The most research focused on heirloom tomatoes because of their growing market share, and the many varieties being grown and sold at markets that allow for more in-depth assessment of preferred attributes.

Heirloom tomatoes

Most Influential Attribute Groups

- Farmer
 1. Flavor/aroma
 2. Growing Method
 3. Color
 4. Damage
- Shopper
 1. Flavor/aroma
 2. Ripeness
 3. Growing Method
 4. Color

Top 5 Preferred Individual Attributes

- Farmer
 1. The tomatoes are grown using organic methods.
 2. The tomatoes have a robust "tomato" taste or flavor.
 3. The tomatoes have varied tastes or flavors.
 4. The tomatoes have varied skin colors.
 5. The tomatoes look or feel fully ripe.
- Shopper

1. The tomatoes are grown using organic methods.
2. The tomatoes have varied skin colors.
3. The tomatoes have a robust “tomato” aroma or scent.
4. The tomatoes have a robust “tomato” taste or flavor.
5. The tomatoes look or feel fully ripe.

Top 5 Avoided Individual Attributes

- Farmer
 1. The tomatoes are grown using conventional methods.
 2. The tomatoes look or feel over-ripe.
 3. The tomatoes have minor cracks or splits.
 4. The tomatoes are smaller in size.
 5. The tomatoes have thinner or tender skins.
- Shopper
 1. The tomatoes look or feel over-ripe.
 2. The tomatoes are grown using conventional methods.
 3. The tomatoes have minor cracks or splits.
 4. The tomatoes have soft flesh.
 5. The tomatoes have minor blemishes.

Discrepancies between Farmers and Shoppers

- Group Attributes
 1. Skin Thickness
 2. Damage
 3. Ripeness
- Individual Attributes
 1. The tomato varieties appear to be new or unfamiliar to you.
 2. The tomatoes have a robust “tomato” aroma or scent.
 3. The tomatoes look or feel overripe.

Main discrepancies between farmers and shoppers

- Individual Attributes
 4. The tomato varieties appear to be new or unfamiliar to you.
 - a. Overall, farmers ranked this attribute as a negative while shoppers ranked it as a positive.
 5. The tomatoes have a robust “tomato” aroma or scent.
 - a. Overall, shoppers ranked this attribute as an important positive while farmers ranked it close to zero – indicated little relative importance in their decisions of what to sell.
 6. The tomatoes look or feel overripe.

- a. Shoppers felt more strongly than farmers that this attribute was important to avoid.

Flavor/aroma stands out as a key influential factor in both grower and shopper decision-making. Within that category, both growers and shoppers perceived acidic and mild flavors as negative qualities and robust, sweet, and varied flavors as positive qualities. There was a consensus among shoppers that familiar or predictable flavors were an attribute they avoided, while farmers perceived this attribute as a positive, though minor factor. The main area of disconnect within this category was for the attribute “the tomatoes have a ‘robust’ aroma or scent.” Shoppers identified this attribute as one of the top preferred attributes for heirloom tomatoes, while only one farmer selected this attribute as one of the key factors they consider when selecting tomatoes to sell. This may indicate that growers are unaware of the extent that shoppers rely on aroma to select tomatoes or identify tomatoes that will meet their taste preferences.

The skin thickness attribute group stands out as very important to grower decision-making. In particular, thin or tender skins were a key attribute they avoided. However, shoppers identified thin or tender skins as a positive attribute, though they did not feel as strongly as growers about the importance of skin thickness.

Within the color attribute group, there was consensus that color has an overall strong and positive influence on selecting tomatoes. Both growers and shoppers identified tomatoes with varied skin colors as a key attribute they prefer. However, shoppers also felt strongly that tomatoes with varied skin color shades, rather than uniform coloring, were an attribute they sought. No growers identified this attribute as one they consider.

Shoppers felt very strongly that posting the specific varieties is something they look for and few farmers identified this as a key attribute. In the focus groups, participants noted they find it frustrating and overwhelming when varieties are not marked and no one is available to assist them in selecting a product. They noted that one reason they like farmers’ markets is because they can try new things and they like having the varieties posted so if they like/dislike something, they know what to look for/avoid the next time they shop. They also prefer when signs give some indication of what the product tastes like so they can select unfamiliar varieties based on other qualities they prefer (i.e. acidic, sweet, etc.).

Growers perceived unfamiliar varieties as an attribute to avoid, while consumers felt strongly that unfamiliar varieties are a positive attribute and familiar varieties are a negative attribute. This may be another area where the demographics of the shopper are important to consider when deciding to selling unfamiliar varieties. Some shoppers may not have the time or financial resources to experiment with new foods, while other shoppers view farmers’ markets as an opportunity to try new things.

There was some disconnect in the ripeness category. Both growers and shoppers strongly avoided selling/buying overripe tomatoes, but had different perceptions of partially ripe tomatoes. Growers perceived partially ripe tomatoes as an absolute negative attribute, while shoppers were split. Overall, shoppers ranked partial ripeness as a top attribute they avoid, but some selected it as an attribute they seek. In the focus groups, some participants noted they like farmers' markets because they can buy things that are perfectly ripe and ready to eat immediately, but they also like to purchase tomatoes at varying stages of ripeness so they can eat them throughout the week. This may be an area where the shopper demographic is important to understand. Perhaps some shoppers are more pressed for time/transportation and need to do all their shopping for a week in one trip.

Both growers and shoppers consider damage as an important factor when selecting tomatoes. However, the results don't allow us to determine what damage is and isn't acceptable to shoppers. Shoppers may be more willing to purchase damaged items than growers realize or may be willing to purchase those items at a discounted price. Some shoppers did select the minor blemishes or cracks as a positive and based on the focus groups, there are shoppers who do seek out damaged items (usually at a reduced price) to use for cooking. Given the recent media focus on reducing food waste and utilizing "ugly produce", there may be a need for a more nuanced view of grower and shopper perceptions of damage.

There is a strong consensus that growing method is important in the decision-making of both growers and shoppers. While shopper and grower views are aligned, there could be disconnects in how effectively growing method information is communicated to shoppers. In the focus groups, participants noted that organic certification wasn't necessary and that signs or conversations with farmers were sufficient. Participants also noted that they weren't strictly looking for full-fledged organic production, but "responsible" growing practices like integrated pest management.

Grower and shopper perceptions were closely aligned in the categories of texture, patina, size, and shape. Those categories were among the least influential for both groups in regards to how they select heirloom tomatoes.

There were a few disconnects within the attribute group of familiarity with the variety. Overall, this category was more important to shoppers than farmers when selecting tomatoes.

Some takeaways:

- Heirlooms were treated by most producers and customers as a category distinct from field or other types of tomatoes, and much less by their individual characteristics of each named

heirloom variety. Most producers did not separate the varieties or mark their names on their displays, and for those who did, shoppers we interviewed on the whole did not identify those that had better flavors or textures. To the most part, shoppers interviewed said they relied on colors and other visual characteristics that they felt were varieties they had tried before and liked.

- Shoppers who bought heirlooms felt they had better organoleptic properties, particularly flavors and textures - better than non-heirlooms overall, and were willing to pay the price premiums for them as a result.
- Farmers typically charged more for heirlooms than for other varieties, but did not vary pricing across different heirloom varieties themselves. In other words, there were generally no additional premiums for what are perceived as more favored varieties. At some stands, the price differences between heirlooms and non-heirlooms was minimal, especially during the height of the season when there was the greatest supply.
- Farmers are concerned with damage at the markets from customer handling, which can account for some of the avoidance of thinner-skinned varieties.

Lettuces or Salad Greens

For this category, our interest was not about varieties of any particular greens, but focused on salad greens as a general category and/or among different types (and did not include varieties more typically cooked. Respondents were asked to check the specific varieties they produced (farmers) or purchased (shoppers), with the responses as follows:

Types of Lettuces and Salad Greens Bought and Sold at Farmers Markets				
Type	Shoppers (number)	Shoppers (%)	Farmers (number)	Farmers (%)
Arugula	128	49.2	15	51.7
Baby beet greens	44	16.9	8	27.6
Dandelion greens	23	8.8	4	13.8
Endive	23	8.8	5	17.2
Green, red or oak leaf	147	56.5	20	70.0
Iceberg	19	7.3	5	17.2
Mesclun	90	34.6	10	34.5
Mizuna or Asian mustard greens	39	15.0	11	37.9
Mixed varieties, specified	111	42.7	10	34.5
Mixed varieties, unspecified	104	40.0	10	34.5
Radicchio	36	13.8	6	20.7
Romaine	104	40.0	16	55.2
Spinach – crinkly leaf	65	25.0	6	20.7
Spinach – smooth leaf	105	40.4	14	48.3
Soft greens	78	30.0	13	44.8
Tatsoi or baby bok choy	63	24.2	12	41.4
Water cress or garden cress	32	12.3	3	10.3
Other	25	9.6	4	13.8

Other purchased: kale (10), pea tendrils (7), Southeast Asian water spinach (2), collard greens, Swiss chard, and sweet potato greens

Other sold: sorrel, Malabar spinach, claytonia, Mache, and purslane

Most Influential Attribute Groups

- Farmer
 1. Growing Method
 2. Flavor
 3. Color
 4. Familiarity with Variety
- Shopper
 1. Growing Method
 2. Flavor
 3. Familiarity with Variety
 4. Color

Top 5 Preferred Individual Attributes

- Farmer
 1. The lettuces or salad greens are grown organically.
 2. The lettuces or salad greens have several colors.
 3. The lettuces or salad greens are familiar varieties.
 4. The lettuces or salad greens are loose-leaf style.
 5. The lettuces or salad greens have mild or neutral flavors.
- Shopper
 1. The lettuces or salad greens are grown organically.
 2. The varieties of lettuces or salad greens are identified on the bag or via signs.
 3. The lettuces or salad greens have full or robust flavors.
 4. The lettuces or salad greens have several colors.
 5. The lettuces or salad greens are loose-leaf style.

Top 5 Avoided Individual Attributes

- Farmer
 1. The lettuces or salad greens are grown conventionally.
 2. The lettuces or salad greens are a single variety.
 3. The lettuces or salad greens have a bitter style or flavor.
 4. The lettuces or salad greens are only green in color.
 5. The lettuces or salad greens are not familiar varieties.
 6. The lettuces or salad greens have a firm texture.

- Shopper
 1. The lettuces or salad greens are grown conventionally.
 2. The lettuces or salad greens have a bitter style or flavor.
 3. The lettuces or salad greens cost more than other varieties at the farmer's market.
 4. The lettuces or salad greens are pre-bagged or packaged.
 5. The lettuces or salad greens are only green in color.
 6. The lettuces or salad greens have a soft texture.

Discrepancies between Farmers and Shoppers

- Group Attributes
 1. Variety in the salad mix
 2. Cost
 3. Flavor
- Individual Attributes
 1. The lettuces or salad greens are a single variety.
 2. The lettuces or salad greens have several colors (e.g. green, red, purple).
 3. The lettuces or salad greens are only green in color.

Discrepancies between Farmers and Shoppers

- Individual Attributes
 4. The lettuces or salad greens are a single variety.
 - a. Farmers ranked this attribute as something to avoid while the overall score for shoppers was close to zero. Amongst shoppers, there was a divide between whether this attribute was something they sought or something they avoided.
 5. The lettuces or salad greens have several colors (e.g. green, red, purple).
 - a. Both farmers and shoppers ranked this attribute as an overall positive, but the average score for farmers was higher indicating they find it more important than shoppers.
 6. The lettuces or salad greens are only green in color.
 - a. Both farmers and shoppers ranked this attribute as one to avoid, but farmers ranked it as more important to avoid than shoppers did.

Additional findings:

- The greatest anomaly was the strong preference among shoppers for lettuces or salad greens have full or robust flavors while for farmers, this was not a priority, and in fact 'have mild or neutral flavors' was one of their top-five preferences. Shoppers ranked bitter flavors as an attribute to avoid, as did farmers, albeit not as strongly.
- Shoppers indicated preference for un-bagged or unpackaged greens – even though for loose-leaf greens this is seldom offered at farmer's markets.
- They liked greens that were loose-leaf and mixed varieties,
- Shoppers wanted the names /or varieties of the greens to be identified in some way.

Bell or sweet peppers

Most Influential Attribute Groups

- Farmer
 1. Growing Method
 2. Damage
 3. Flavor
 4. Color
- Shopper
 1. Color
 2. Growing Method
 3. Flavor
 4. Texture

Top 5 Preferred Individual Attributes

- Farmer
 1. The peppers are grown organically.
 2. The peppers have a sweet “bell pepper” flavor.
 3. The peppers have no spots or discoloration.
 4. The peppers are other skin colors (not red or green).
 5. The peppers have crunchy or crisp flesh.
- Shopper
 1. The peppers are grown organically.
 2. The peppers are other skin colors (not red or green).
 3. The peppers have a sweet “bell pepper” flavor.
 4. The peppers are red in color.
 5. The peppers have no spots or discoloration.

Top 5 Avoided Individual Attributes

- Farmer
 1. The peppers have minor spots or discoloration.
 2. The peppers are grown conventionally.
 3. The peppers are small and lightweight in size.
 4. The peppers have softer or thinner flesh.
 5. The peppers have asymmetrical or varied shapes.
- Shopper
 1. The peppers are grown conventionally.
 2. The peppers have minor spots or discoloration.
 3. The peppers are green in color.
 4. The peppers have softer or thinner flesh.
 5. The peppers cost more than similar peppers at the grocery store.

Discrepancies between Farmers and Shoppers

- Group Attributes
 1. Cost
 2. Damage
 3. Texture

- Individual Attributes
 1. The peppers have minor spots or discoloration.
 - Both farmers and shoppers ranked this attribute as an overall negative, but farmers ranked it as more important to avoid than consumers did.
 2. The peppers are small and lightweight in size.
 - Both farmers and shoppers ranked this attribute as an overall negative, but farmers ranked it as more important to avoid than consumers did.
 3. The peppers have a sweet “bell pepper” flavor.
 - Both farmers and shoppers ranked this attribute as an overall positive, but farmers ranked it as more important when making decisions than farmers did.

Additional findings:

- Farmers tended not to distinguish or identify bell or sweet peppers by their varieties in the markets. Overall, at the farmers markets we reviewed, peppers were typically separated by color only; otherwise, there were no identifying characteristics to distinguish them. Shoppers did not seem concerned about this – i.e., that organoleptic elements of peppers of the same color would differ by variety, and some would be preferable to others. Rather, visual features such as color, size, and lack of cosmetic faults most influenced their particular preferences.
- Preferences for colors fell into two categories. Red peppers, preferred more by shoppers than by growers, were chosen primarily when sweetness was a factor as an overall flavor difference from the green or other colors. Interest in other colors such as yellow, purple, and orange was more of a visual aesthetic than a flavor choice.
- Avoidance for peppers revolved mainly around perceptions of freshness and damage, rather than other physical characteristics such as size and shape. Blemishes were cited more from a sense of potential damage (e.g. rot, declining freshness) rather than a visual concern, but for those who can’t easily distinguish the difference; they would lean toward avoidance in favor of an unblemished selection.
- Shapes: in the surveys and interviews, there was not a strong bias towards uniformity or size that is more typical in grocery stores;

Additional findings – all produce items:

Attribute disparities: Among all the attributes compared for each of the three specialty crop categories, there were disparities between shoppers’ and farmers’ preference and

avoidance priorities; however, not as many as hypothesized. Nonetheless, there were other unanticipated findings that

Organic production: Across all three specialty crop categories, organic production was a top preference for both producers and shoppers. This is notable because it was one of the few attributes that were not sensory-related or, in other words, not an integral physical feature of the produce item itself. In addition, not that many farmers at the markets where we conducted shopper interviews, and across the state more generally, are registered organic producers, even if they grow organically. (The latest MA Census of Agriculture identifies less than 200 organic producers out of 7755 for all farm products (see [http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1, Chapter_1_State_Level/Massachusetts/st25_1_053_054.pdf](http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_State_Level/Massachusetts/st25_1_053_054.pdf)).

Standardization and imperfections: Overall, shoppers are much more forgiving about non-standardized produce as compared to similar produce sold in stores. This applies to size, color variations, and shapes, for example). While some shoppers preferred larger sizes, others were fine with smaller-than-typical sizes and this balanced out. Therefore, farmers did not feel the need to standardize or separate produce according to grading standards that apply in stores.

Damaged or deteriorated crops: These attributes were arguably the most difficult to assess and standardize among shoppers, and to some extent farmers. Because the potential loss of sales and/or premium pricing for what items that appear to have damage (spotting, discoloration, cracks, softness, and so on), the financial implications are considerable, particularly in aggregate.

Heirloom tomatoes: By their nature, and due to the multiple varieties grown, heirloom tomatoes have many visual characteristics compared to conventional or hybrid tomatoes. This includes cracks, spots blemishes, fun shapes in sizes, multiple colors. If these were field tomatoes, such characteristics are more likely to be regarded as flawed or damaged.

But for heirlooms, these are typical physical characteristics, but there is some point at which the defects become real negatives; i.e., they seem too extensive and fall into a ‘damaged’ classification in the minds of the shoppers. Sometimes growers will have “seconds” containers where they will offer these at a lower price. But others simply leave them behind when loading the truck for the market. Even if these tomatoes find other uses, or are sold as seconds, it can sharply impact revenues. While producers absorb this loss as part of the fresh produce business, there is an interest in minimizing it to the extent possible. From our interviews, producers appear to use a trial and error approach in determining which harvested tomatoes are suitable for markets by the way shoppers accept or reject them. This can differ market by market; more savvy shoppers will understand

and appreciate the nuances of heirlooms when they are more familiar with their characteristics.

Damage to tomatoes occurs easily at the markets due to handling by customers. Some producers feel that thinner skinned varieties are more susceptible to softness and other damage from such handling (similar to concerns among all tomato producers and exporters). But there is not much evidence from this survey that growers have been avoiding certain varieties for this reason.

Bell or sweet peppers: Popular bell peppers have fewer variations that could be interpreted as damage or deterioration. Perhaps for that reason, shoppers indicated that blemishes in general were not acceptable (unlike heirloom tomatoes, for example). There wasn't enough information from the farmer interviews and surveys to determine the extent to which blemished or otherwise 'damaged' peppers were left at the farm. Typically, farmers do not offer 'seconds' for peppers at the markets.

Salad greens and lettuces: A major avoidance attribute for shoppers was: "The lettuces or salad greens have a bitter style or flavor". It is not clear that this truly reflects a rejection of typically bitter greens, since arugula was among the most popular greens, and along with mustard greens, mizuna, and other bitter greens is typically included in salad mixes. This contributes to the "The lettuces or salad greens have full or robust flavors" attribute that was in the top five preferences. Possibly 'bitter' is interpreted as an inherently negative taste or a sign of deterioration rather than an essential taste of many well-liked greens. This factor should be further investigated.

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Organization Name:

University of Massachusetts, Stockbridge School of Agriculture (UMASS):

Project Title:

Addressing Current and Proposed Requirements for Good Agricultural Practices for Adoption by Established and New Growers in Massachusetts and Educating Growers about Food Safety Production and Handling Practices

Final Progress Report

FY 13 12-25-B-1676

**PROJECT
SUMMARY**

- *Provide a background for the initial purpose of the project:*

In January 2013, FDA released two proposed new food safety regulations as part of the Food Safety Modernization Act, which are significant to the agriculture community including the Produce Rule with standards for growing, harvesting, packing, and holding produce; and the Preventive Controls Rule regarding Good Manufacturing Practices for human food and Hazard Analysis and Risk-based Preventive Controls requirements for food facilities, including on-farm processing. In effort to provide technical resources and educational programming for producers in Massachusetts, the UMass team aimed at developing and implementing a food safety plan that would be used as a model for extension programming. The general project approach included

 - On-farm microbial sampling as a means to determine high-risk area's on-farm to help guide food safety plan development and for the implementation of scale-appropriate standard operating procedures,
 - The development of a farm food safety plan for the UMass Research Farm in South Deerfield,
 - Extension educational programming and materials for producers.

- *Describe the importance and timeliness of the project.*

This project is very timely as the Produce Rule was legally implemented in 2015. While many growers in Massachusetts will be exempt from the regulation due to

their size and distribution, many growers are affected by FSMA due to market demand for improved food safety practices.

- *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.*

Not Applicable.

PROJECT APPROACH

- *Summarize activities and tasks performed during the entire grant period.*
This project aimed at conducting research and outreach activities to address on-farm food safety compliance relevant for farms in New England using the UMass Research Farm, South Deerfield, MA. The general approach included application research that utilized environmental monitoring on-farm to determine high risk practices on-farm for guiding the development of improved food safety practices. Food safety plans were then developed, implemented and audited by the Massachusetts Department of Agriculture's Commonwealth Program (CQP). The UMass Research Farm was then used as a model location for extension programming to share the process used for implementing the food safety plans. At the end of the three years, this Food Safety Education program aimed to reach 500 growers. In addition, by the end of the project, more than 2,500 farmers were targeted to receive information produced by this project on food safety certification (CQP, GAP and Harmonized GAP) via digital, hard copy publications or visiting the UMass Research Farm. Outputs from this program resulted in: **1) reaching 917 growers and agricultural professionals through extension programming, 2) 274 New England farms holding a food safety certification, 3) 9 produce safety related publications, 4) 19-educational presentations and 5) 5-media products.** The outcome of this work demonstrates an increase in grower's knowledge of food safety on-farm as indicated by the increase of on-farm food safety certifications (reported below).

GOALS AND OUTCOMES ACHIEVED

- **Goal 1:** Increase the number commercial farms in New England that will become food safety certified (GAP, Harmonized GAP and Commonwealth Quality (CQP) and increase knowledge base of commercial farms to become GAP certified in the future.
- **Goal 2.** Increase knowledge base on GAP protocols and food safety of trained farmers and agricultural professionals.

Original goal to was to reach at least 500 growers with Food Safety Education through presentations and hand-on activities. A total of 917 (year 1: 300, year 2: 374, year 3: 243) growers and agricultural professionals have been reached with food safety education by

presentations and hands-on activities as outlined in the “Outputs” section of this report. This does not include the thousands of growers who were impacted by Extension publications listed above, estimated to be more than 3,000.

Our goal of increased commercial farms was modified in Year 1 due to the market demand and FSMA regulatory impact.

The goals were modified to aim for:

- A minimum of 60 growers in Massachusetts to become certified CQP
- A minimum of 75 growers in New England to become certified with a food safety program

As of September 30, 2016, the number of growers who are certified for GAP, Harmonized GAP and GAP in New England (Table 1) were reported as:

- Commonwealth Quality: 101
- GAP: 174
- Harmonized GAP: 14

As of September 30, 2016, there are a total of 274 growers who are certified for GAP, Harmonized GAP or Commonwealth Quality (Table 1) (<https://apps.ams.usda.gov/GAPGHP>)

Table 1. Number of certified growers in New England for GAP, Harmonized GAP and Commonwealth Quality as of September 30, 2016.				
	CQP	GAP	Harmonized GAP	Total
Connecticut	----	20	1	21
Massachusetts	102	21	13	136
Maine	----	75	5	80
New Hampshire	----	13	0	0
Rhode Island	----	2	0	0
Vermont	----	22	0	0
Total	102	153	19	274

Interpretations for these numbers:

- *Commonwealth Quality*. The number of certified growers in Massachusetts for Commonwealth Quality has exceeded the goal for this project.
- The number of growers in New England certified in an on-food safety program before this project was initiated was 75. It has more than doubled in three years.
- *GAP*. At the beginning of this project it was expected that growers would have to

migrate from GAP to Harmonized GAP; however, many growers were waiting to learn more about new regulations on GAP/Harmonized GAP that are being promulgated by USDA. The anticipated transition from growers moving to Harmonized GAP was likely significantly reduced due to the implementation of the Produce Rule from FSMA (September 2015).

The significant increase of certified food safety programs on-farm over the course of 3 years strongly indicates that the extension programming and outputs contributed to the increased knowledge to produce safety that helped to enable improved food safety management on-farm.

□ Activities and Outputs

Below is a summary of the all of the activities and outputs generated throughout the program.

9 Publications:

1. Habib J., Kinchla A., McKeag, L. 2014. About the FSMA Proposed Supplemental Rule for Produce Safety. Vegetable Notes. 2014. Vol 26:25. NOTE: Vegetable notes are distributed to a list of 2,500 stakeholders.
2. McKeag L. 2015. Field Hand Washing Stations. UMass Extension Vegetable Notes newsletter. Vegetable Notes 2015. Vol 27:6. NOTE: Vegetable notes are distributed to a list of 2,500 stakeholders.
3. Lawton M., Kinchla A., McKeag, L. 2015. Produce Wash Water Sanitizers: An Overview. Vegetable Notes. 2015. Vol 27:10. NOTE: Vegetable notes are distributed to a list of 2,500 stakeholders.
4. Kinchla, A., Harper, K. Produce Brush Washer Study: Finding a standard operating procedure. UMass Extension Vegetable Notes newsletter. Vegetable Notes. 2016. Vol 28:21. NOTE: Vegetable notes are distributed to a list of 2,500 stakeholders.
5. Kinchla, A., Harper, K. Standard Operating Procedure for Cleaning an Oesco Brush Washer.
https://ag.umass.edu/sites/ag.umass.edu/files/brush_washer_ssop_and_log.pdf. 2016.
6. Cullen, E., Visnick, S., Brown, A., UMass Student Farm Wash Station Case Study. A Do-It-Yourself guide for a postharvest mobile wash station. 2016 Season. <https://stockbridge.cns.umass.edu/student-farm>
7. Cullen, E., Visnick, S., Brown, A., UMass Student Farm Food Safety Manual. 2016 Season. <https://stockbridge.cns.umass.edu/student-farm>
8. Gensler, C., Kinchla, A. Exploring Washing Procedure for Produce Brush Washer. *Submitted into a peer reviewed journal.*
9. Lawton, M., Kinchla, A. Assessing Food Safety Risks On-farm Through Environmental Monitoring. *Submitted into a peer reviewed journal.*

- **5 Media Materials**

1. Lisa McKeag created a Food Safety for Farmers sub-section of the UMass Amherst Center for Agriculture, Food and the Environment, UMass Extension Vegetable Program website: <https://ag.umass.edu/resources/food-safety/food-safety-for-farmers>. This website reflects the most up-to-date information available regarding the recently released Food Safety Modernization Act Produce Safety Rule, as well as general information on the six major focus areas for farm food safety.
2. Kinchla, A., Hirsch, D., Estrin, H., *Knowing How to Clean and Sanitize*, Video: https://youtu.be/DckC_kHyD1I, 2016.
3. Kinchla, A., Hirsch, D., Estrin, H., *Standard Operating Procedures*, Video: <https://youtu.be/24QxF0H3I-s>, 2016.
4. Kinchla, A., Hirsch, D., Estrin, H., *Cleaning vs. Sanitizing*, Video: <https://youtu.be/WBynfFM0fVo>, 2016.
5. Kinchla, A., Hirsch, D., Estrin, H., *Clean Greens: A standard operating procedure for triple-rinse greens*, Video: https://youtu.be/NTu_Q_kpRgM, 2016.

- **19 Food Safety Outreach Presentations:**

1. Cullen, E., Visnick, S., Brown., Developing an On-Farm Food Safety Plan. Food Safety Twilight. UMass Research Farm. South Deerfield, MA. September 2016. 15 impacted.
2. Cullen, E., Visnick, S., Brown, A. DIY Postharvest Mobile Wash Station, Food Safety Twilight. UMass Research Farm. South Deerfield, MA. September 2016. 15 impacted.
3. Chang, A. Kinchla, A. Development of a Produce Sanitizer SOP, Food Safety Twilight. UMass Research Farm. South Deerfield, MA. September 2016. 15 impacted.
4. Harper, K., Kinchla, A. Finding a Brush Washer Standard Sanitation Operating Procedure, Food Safety Twilight. UMass Research Farm. South Deerfield, MA. September 2016. 15 impacted.
5. Kinchla, A., Gensler, G. Leveraging Seasonal Variation and Identifying Best Management Practices for Produce Brush Washer. Poster presentation. International Association for Food Protection Annual Meeting, St. Louis, MA. August 2016. Numbers estimated: 25.
6. Kinchla, A., Lawton, M. Assessing Food Safety Risks On-Far Through Environmental Monitoring. Poster presentation. International Association for Food Protection Annual Meeting, St. Louis, MA. August 2016. Numbers estimated: 25.
7. Kinchla, A., Botelho, M., McKeag, L. on-Farm Food Safety Training. UMass

Research Farm, August, 2016. 23 impacted.

8. Mangan, F. and Z. Barros. 2015. Addressing integration of animal and vegetable production as they relate to GAP. New England Vegetable and Berry Grower Conference. Hudson Mass. January 23. 60 people impacted.
 9. Bonanno, R. 2015. On-farm Food Safety. New England Vegetable and Berry Grower Conference. Hudson, MA. January 23, 15. 60 people impacted.
 10. Bonanno, R. 2015. Full Day training on Harmonized GAP. Marlborough, MA. January 29. 36 people impacted.
 11. Kinchla, A. 2015. Full Day training on Harmonized GAP Food Safety presentation. Marlborough, MA. January 29. 36 people impacted.
 12. Bonanno, 2015. Food safety update, SEMAP Conference, Bristol Aggie. March 1. 22 people impacted.
 13. McKeag, L. 2015. Assisted in organizing the educational program, Farm Food Safety: Post-Harvest Handling and Small-Scale, Low-Cost Facility Design. Montague, Mass. June 15. 30 people impacted.
 14. Kinchla, A. 2015. National North American Marketing Organization: invited speaker regarding Food Safety Practices. July 2015. 30 people impacted.
 15. Kinchla, A. 2015. On-Farm Food Safety. Farm to Institution Conference, UMass Amherst: April 2015. 20 people impacted.
 16. Mangan, F. 2015. Integrating animals and vegetables according to GAP practices. Farm to Institution Conference, UMass. April 2015. 20 people impacted.
 17. Bonanno, A. 2015. Updates on GAP practices. Farm to Institution Conference, UMass. April 2015. 20 people impacted.
 18. Kinchla, A. 2015. On-farm food safety. Farm to School Conference, Holy Cross, Worcester, MA March 2015. 40 people impacted.
 19. Kinchla, A. 2015. Application Research for Improved On-Farm Food Safety. New England Fruit, Vegetable and Berry Conference, Manchester, NH. December 2015. 110 people impacted.
- 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.

Not applicable. This project was specifically a specialty crop project.

- Contributions:

This project was a collaborative partnership with a multi-disciplinary team that included agricultural and food safety experts from UMass and the Massachusetts

Department of Agriculture. The extension activities, technical resources and programming executed (see above) included a diverse platform of outputs to maximize outreach to the targeted stakeholders (produce farmers). PI-Kinchla lead the efforts for investigating and guiding the development of Standard Operating Procedures (SOP) that included environmental monitoring, application research and preparing extension materials on SOPs. PI- Mangan and Bonanno contributed to the development of food safety plans and leading food safety presentations to growers. Contributor McKeag lead the efforts to manage and develop the produce safety website materials. Contributor Brown led the efforts to develop the Food Safety Manual and DIY mobile wash station.

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

The long term goal was to increase knowledge of food safety. The increased number of farms that have received a food safety certification is an indicator that this program has contributed to the long term goal of improved food safety practice.

- Reporting of actual accomplishments against established goals.

Specific Aim	Goal	Accomplishment
Reach growers with Food Safety Education	500	917
MA growers getting CQP certified	60	102
New England growers becoming GAP (or Harmonized GAP)	75	274

Activities and outputs that contributed to meeting our goal are listed. This project exceeded the goals of the project (Table 1). Furthermore, the reported values do not report on the outreach impact from all of the developed extension materials listed (which is estimated to reach more than 3,000 stakeholders).

BENEFICIARIES

- This program was specifically targeted to produce farmers. Presentations, extension resources and programming was mindful of serving a diverse platform of growers including new entry farmers, low-English speaking farmers, small and medium-scaled growers and organic and conventional farms. A total of 917 growers and agricultural professionals were affected by this projects accomplishments (Food safety education via presentations, websites and hands-on activities) with 274 farms currently reported to hold a food safety certification (such as CQP, GAP or Harmonized GAP).

LESSONS LEARNED

- This program opportunity helped to provide a variety of educational programming and tools relevant to produce safety. The collaborative effort that included both agricultural and food safety partners helped to identify critical food safety challenges and provide scale appropriate approaches to improve food safety practices on-farm. One key lesson learned in this project was that stakeholders are more inclined to adopt the practice with more “real-world” applications presented. The development of SOPs, the Food Safety Manual and the Wash Station Case Study helped to present actual approaches to food safety management that can be used on-farm. Future work should continue to include implementing strategies that can help increase knowledge and adoption of practice.
- FSMA Produce Rule regulation implemented in September 2015 has specific metrics for the agricultural water. While this project monitored the river shed adjacent (CT River) to the model farm to understand the implications involved with this source of agricultural water, approaches to addressing how to mitigate water that does not comply with the regulation was not within the scope of this work. This project helped to identify challenges in complying the agricultural water regulation. It is recommended that future work focuses on mitigating strategies for agricultural water compliance.

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ADDITIONAL INFORMATION

- Attached with this final report summary are some of the developed extension programming materials, including:
 - The UMass Student Farm Food Safety Manual, August 2016.
 - The UMass Wash Station Case Study, August 2016.
 - The UMass Commonwealth Quality Program Certificate, Issued 2016.
 - Harper, K., Kinchla, A. Poster: Finding a Brush Washer Standard Sanitation Operating Procedure, UMass Twilight. August 2016.
 - Chang, A., Kinchla, A. Poster: Use of Commercial Peracetic Acid and Peroxide Test Strips in Monitoring Sanitizer Levels in Simulated Vegetable Wash

Organization:

U.S. Cranberry Marketing Committee

Project:

Mainland China Cranberry Harvest Media Tour

Final Progress Report

FY13 12-25-B-1676

Project Summary:

In recent years, the MA cranberry industry has not fully capitalized on the opportunity for cranberry exports to China. The main constraint to export growth has been low awareness of the cranberry among Chinese consumers. In fact, Cranberry Marketing Committee (CMC) research at the time of the application suggested that less than 1% of Chinese consumers knew that cranberries existed. At the same time, China continues to purchase imported goods with greater frequency, as recent food safety scandals have led to distrust of domestically-produced foods. The result is a substantial rise in overall U.S. agricultural imports, while imports of cranberries have remained low in the past.

Additionally, the cranberry industry continues to face a production surplus. With domestic demand for cranberries stagnant, the cranberry industry recognizes that emerging export markets, predominantly China, hold the key to the continued health of the industry.

In order to address this situation and raise awareness of cranberries, the CMC hosted a ‘reverse trade mission’ in October 2014. The CMC invited a group of journalists from

China's largest and most influential media outlets to interact with MA cranberry growers and experience the cranberry harvest in MA firsthand. Their experiences, images, and stories were conveyed back to Chinese consumers, building demand for cranberry products in China and helping alleviate the lower grower returns brought on by the surplus. The resulting publicity also benefited the MA tourism industry by encouraging more Chinese tourists to visit the Commonwealth. The Cape Cod Cranberry Growers Association, as well as the MA Office of Travel and Tourism, worked with the CMC to maximize the beneficial impact of this initiative.

Project Approach:

Following the initiation of the agreement with the MDAR for the "Mainland China Cranberry Harvest Media Tour", CMC began planning with its in-country representatives to identify the most suitable timeframe and to initiate the process through which media representatives would be selected. Concurrently and consistent with the work plan, CMC developed and shared with Cape Cod Cranberry Growers Assoc. (CCCGA) and the Massachusetts Office of Travel and Tourism (MOTT) a draft plan scoping out the general objectives via a Power Point Presentation. As a result of these planning activities, the China Media Tour was set for October 7 – 10, 2014 and coordination with the CCCGA lead to the identification of cranberry harvesting and processing facilities that were a central part of the tour.

CMC then worked with China in-county contractors. Electronic, print, and television journalists were recruited for attendance to the tour, and a list of thirteen guests, including three CMC in-country contractors, was finalized. Importantly, the media guests represented a print, online or television audience numbering over 150 million readers and/or viewers.

In October 2014, CMC hosted eight of the targeted thirteen journalists from China's most influential, highest-circulation publications and television stations. The journalists visited cranberry bogs, participated in harvest with MA cranberry growers, and learned about the unique cranberry history, culture, and research around diet and health benefits. Their experiences were then conveyed back to their readership and viewers, building awareness and demand for cranberry products among Chinese consumers.

After the trade mission event, CMC monitored media outlets in China for resulting coverage, and for increases in U.S. cranberry export volumes. Performance was measured through total number of consumers reached, advertising (ad) value equivalent, percentage increase of U.S. cranberry exports, and total number of cranberry product launches.

Secondary benefits of the project included increased awareness and demand for MA State’s tourism economy. The resulting publicity across health and lifestyle publications in China conveyed a unique opportunity for tourism in the Commonwealth to the fastest growing visitor group to the United States, and the second-largest source of overseas tourism for Massachusetts.

Goals and Outcomes:

Goal	Target	Benchmark	Performance Measure	Actual Outcomes
<p>Media secured through activity will expose a significant number of Chinese consumers to information about the MA cranberry industry</p>	<p>10 million consumers reached</p>	<p>NA</p>	<p>CMC’s in-country contractor will monitor all media secured as a direct result of the activity and determine total reach based on circulation statistics.</p>	<p>78 million consumers reached</p>
<p>The ad value equivalent of media secured through the activity will substantially exceed the total cost of the grant request</p>	<p>\$1 million</p>	<p>\$20,000</p>	<p>CMC’s in-country contractor will monitor all media secured as a direct result of the activity and determine ad value equivalent based on published advertising rates</p>	<p>\$2.9 million</p>

			for each media outlet.	
The percentage of Chinese trade that plan to increase purchase volumes of U.S. cranberries in the next 2-3 years will double from current levels within one year of activity implementation*	44%	22%	CMC's in-country contractor will conduct a survey among trade in Shanghai, Beijing, and Shenzhen to gauge future purchase intent approximately one year after activity is implemented.	N/A
The number of cranberry products launched in China will increase versus the prior year within one year of activity implementation*	38	23	CMC will retain research firm to provide cranberry product launch data for China. CMC collects this data on an annual basis for all target export markets.	33
Cranberry export volumes to China will increase at least 20% within one year of activity implementation*	18,595 100-lb barrel equivalents	15,496 100-lb barrel equivalents (2011/12)	CMC will conduct its annual industry-wide export survey to determine export volumes.	82,843 100-lb barrel equivalents (2014/15)

** These goals depend on a number of factors and broader consumer awareness is an important determinant of increased confidence in cranberry sales potential, product launches, and exports.*

The Harvest Media Tour participants included five print/online journalists, one TV crew, one celebrity blogger, and one consumer contest winner. As of February 2015, media

coverage secured after the tour included twelve pages in consumer publications, six original online articles, a two-hour radio interview, and a 25-minute television program.

As the table above demonstrates, actual outcomes surpassed their respective benchmarks and targets on multiple occasions. The Harvest Media Tour generated a significant amount of press in both the number of consumers reached (78 million) and the ad value equivalent (\$2.9 million). This suggests that the tour accomplished its primary goal of increasing U.S. cranberry awareness for Chinese consumers and tourists. Growth in cranberry product launches and export volume in China also reflect an increased awareness and demand. As of February 2015, 33 new cranberry product launches were found in the market. This continues to increase. U.S. cranberry export volume in 2014/15 demonstrated significant gains with a 41% increase to reach a total of 82,843 100-lb barrel equivalents. Over a five-year period, U.S. cranberry exports to China have expanded by 344%¹. These results—both the direct media impact from the tour, as well as the cranberry product and export growth in China—indicate that events such as the Harvest Media Tour have supported generating awareness of U.S. cranberries and boosting demand.

Beneficiaries:

This project benefitted the U.S. Cranberry Marketing Committee's entire 1,200 member-growers across 10 States, which represent 99% of U.S. production. Cranberry export sales are crucial to Massachusetts, as well as the broader U.S. cranberry industry, with over 2,587,353 100-lb barrel equivalents of cranberry products worth over \$516 million exported from the U.S. in 2014/15.

In addition, the Cape Cod Cranberry Growers Association (CCCGA) and the MA Office of Travel and Tourism (MOTT) both contributed towards and benefitted from making the Harvest Media Tour a success. The CCCGA represents over 400 MA cranberry growers that produce an annual crop worth an estimated \$102 million. Several of the nation's largest cranberry processors located in the State also employ over 5,000 people. The CCCGA provides regulatory, professional, and research support to MA growers. For this project, the CCCGA leadership were helpful in identifying and participating in cranberry grower harvest and processing facility tours.

The MA Office of Travel and Tourism—the state agency promoting Massachusetts as a tourist destination—also provided support by working with CMC and the CCCGA to plan and co-host the Harvest Media Tour. The MA tourism industry generates \$1.2 billion in state and local taxes, \$18.5 billion in travel related expenditures, and supports over 129,400 in-state jobs. China now represents the second-largest source of overseas tourism for Massachusetts, where spending by Chinese visitors quadrupled from 2007 to 2011 to reach

¹ CMC Annual Export Survey 2015

\$285 million. To this end, the MA tourism industry and MOTT greatly benefitted from the resulting media coverage and interest in MA tourism.

Lastly, assistance on the tour was also provided through the Massachusetts Department of Agricultural Resources, as well as the Massachusetts Specialty Food Association. Together, these organizations helped to put on an “après bog” tasting event for the participants that highlighted well over two dozen different cranberry food and beverage products for sampling.

The combination of these organizations’ support and the resulting activities enabled the tour to immerse the China media attendees in a multi-faceted cranberry experience. This ensured robust and high quality media coverage benefitting the MA cranberry industry, the U.S. cranberry industry, and the MA tourism industry.

Lessons Learned:

CMC completed the project successfully and within the general work plan timeframe. No problems or delays were encountered associated with the execution of this project. CMC was able to work with its in-country contractors to track media impact that was generated from the media tour as well as conduct an industry-wide annual export survey to determine changes to export volume to the China market. Furthermore, CMC commissioned research in order to track the number of cranberry product launches in China pre versus post project. The only goal CMC was not able to track accurately was the percentage of Chinese trade that plan to increase purchase volumes of U.S. cranberries in the next 2-3 years as a result of the activity. This goal was found to be significantly influenced by a number of external factors beyond CMC’s control (i.e. local economy, exchange rate, etc.), and not an accurate gauge of CMC’s activity. Moving forward, CMC would thus recommend that this expected measure goal be removed for gauging the success of future Mainland China media tours.

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Additional Information: None.

