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2010 Specialty Crop Block Grant Program
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New Hampshire State Plan
Final Report
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Submitted by the
New Hampshire Department of Agriculture, Markets & Food
In cooperation with selected Project Partners

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New Hampshire State Plan 2010 Specialty Crop Block Grant Program

Final Report:

The New Hampshire Dept. of Agriculture, Markets & Food received funding under the 2010 Special Crop Block Grant Program in October 2010. Ten projects were approved for funding and have been completed as per the following individual project reports.

Project 1

Project Title: Improving the Safety of Locally-Produced Foods

Applicant: UNH Cooperative Extension, Cheshire County
Cheshire County Conservation District

Final Report previously submitted

Project Summary:

Conduct on-farm educational programs to educate local food producers about issues related to food safety, and to enable these producers to implement practices that improve food safety.

In the last several years, food safety has become an increasingly important issue to the public. Events like the 2006 recall of spinach due to E. coli 0157:H7 contamination, or the U.S. Food and Drug Administration's advising consumers to avoid tomatoes and peppers due to a Salmonella outbreak in 2008 show that the improper harvesting and handling of farm produce can have serious consequences. While it remains to be seen what regulations will result from the recently passed Food Safety Modernization Act, it is clear that all producers need to address food safety on their operations to ensure that the food they produce does not pose risk to the public health.

The general public often perceives locally-produced food as being safer. A 2008 survey¹ conducted by the Leopold Center for Sustainable Agriculture revealed that 15 percent of respondents viewed a global food system as safe, but 74 percent viewed local food systems and 73 viewed regional food systems as safe. However, there are improvements that the small farms that usually comprise these local and regional systems need make in order to improve the safety of their produce. UNH Cooperative Extension conducted an audit of good agricultural practices (GAP) on local farms in 2001 and 2003; while growers observed many of the recommended

¹ Pirog, Rich and Rebecca Rasmussen. 2008. Food, Fuel, and the Future: Consumer Perceptions of Local Food, Food Safety and Climate Change in the Context of Rising Prices. Leopold Center for Sustainable Agriculture. Ames, Iowa

practices, they did not follow all the recommendations regarding the use of food-safe materials for displaying produce, produce handling and storage, or worker sanitation.

If local produce is going to become more significant in local food systems, then producers will need to address food safety issues in order to ensure that their products are in fact safe. In recent years, local producers have recognized this, and have identified a need for food safety-related educational programs.

According to the Center for Disease Control, there were 17,468 reported cases of foodborne illnesses from bacteria or parasites in the U.S. during 2009, 3,919 of which required hospitalization and 74 of which were fatal. While only a portion of these can be traced back to farms, these numbers illustrate the significant cost of foodborne illness to society. Fortunately, these costs are largely preventable. When farms become more aware of food safety issues and take measures to improve how they harvest, handle, and store the food they produce, the public benefits because there is a lower risk of these foodborne illnesses occurring.

New Hampshire farms already rank high in direct sales to consumers, and it is important to maintain or increase these sales in order for farms to remain viable. One way to accomplish this would be to address consumers' concerns regarding food safety. Producers that participate in food safety training will be better able to make changes on their operations and to communicate with their customers about this issue. In doing so, they strengthen the relationship between local producers and consumers that contributes to the aforementioned confidence in the safety of locally-produced food. Thus, encouraging consumers to put greater trust in local farms, and increase their willingness to purchase from those farms and support a strong local food system.

Project Approach:

We conducted two on-farm workshops for producers and one inservice for Extension educators and agricultural service providers in April 2011. The agenda for the Farm workshop was as follows:

April 12, 2011 - Session 1—Alyson's Orchard

10am –12:30pm

Linda and Lauchlin Titus of AgMatters of Maine

April 12, 2011 - Session 2—Picadilly Farm

2-4:30pm

Linda and Lauchlin Titus of AgMatters of Maine

We toured the facilities, with the producer describing operations at the farm, including production practices, harvesting, handling, and storage. The consultant then pointed out areas that need to be addressed to improve food safety, and discussed recommended practices for dealing with these issues.

The agenda for the Inservice workshop was as follows:

Wednesday, April 13, 2011 - 9:30am—3:00pm

9:30am Registration and Coffee

9:45am Welcome & Introductions

Carl Majewski & Amanda Costello

10am Food Safety Basics

Linda & Lauchlin Titus, AgMatters
10am Food Safety - VT Experiences
Hans Estrin, UVM Extension
Ginger Nickerson, UVM Extension
11am Food Safety Policy Update
Seth Wilner, UNH Cooperative Extension
Noon Lunch
1:15 Farm Tour—Stonewall Farm
2:45 Wrap Up

The inservice was a “train the trainers” opportunity for agricultural professionals to gain a broader understanding of various food safety-related issues. An afternoon segment was conducted on a farm in order for participants to learn about GAP and food safety firsthand.

We hired Linda Titus of AgMatters, an agricultural consulting firm based in Vassalboro, ME with extensive experience working with growers on GAP and food safety issues to be the lead of these three events.

The on-farm workshops consisted of area producers meeting at the participating farms. We toured the facilities, with the producer describing operations at the farm, including production practices, harvesting, handling, and storage. The consultant then pointed out areas that need to be addressed to improve food safety, and discussed recommended practices for dealing with these issues. Participants were then able to identify the areas where they need to improve their own operations, and gained enough knowledge to begin implementing changes.

The inservice was a “train the trainers” opportunity for agricultural professionals to gain a broader understanding of various food safety-related issues. An afternoon segment was conducted on a farm in order for participants to learn about GAP and food safety firsthand. Participants gained a greater understanding of the issues that affect farms, and are now better equipped to address these issues with producers. We included a 1-hour training session and a complete set of planning materials that will enable service providers to replicate a similar food safety program for producers in their respective regions of New Hampshire. This enabled these service providers to offer more programming opportunities to a greater number of New Hampshire specialty crop producers across the state who are interested in food safety.

Carl Majewski, Extension Educator, Agricultural Resources was responsible for identifying speakers and cooperating farms, and for organizing on-farm workshops, and for developing evaluation tools. Amanda Costello, District Manager for the Cheshire County Conservation District, managed the grant and administered the funds, and assisted with planning and delivering the on-farm workshops and inservice. Both principal investigators met monthly to assess progress, and to review evaluation data and prepare the final report after the educational events took place.

Goals and Outcomes Achieved:

Goal 1: 25 food producers will increase their understanding of food safety-related issues, such that they will be able to identify areas they need to improve on their operations, and can better address consumers’ concerns about food safety

Outcome 1: 15 food producers increased their understanding of food safety – related issues.

Goal 2: 10 food producers will implement practices that decrease the risk of transmitting foodborne illnesses

Outcome 2: 8 food producers plan to implement practices that decrease the risk of transmitting food borne illnesses.

Goal 3: 20 Extension Educators and other agricultural service providers will increase their capacity to address food safety issues with both consumers and producers.

Outcome 3: 12 agricultural service providers increased their capacity to address food safety issues.

Goal 4: 10 Extension Educators and other agricultural service providers will take the training materials provided and initiate a similar food safety program in their respective regions of NH for specialty crop producers.

Outcome 4: 7 agricultural service providers expressed that the information presented will assist them in initiating and/or strengthening a food safety program in their region.

We evaluated the outcomes of this project by distributing questionnaires after workshops to determine what information participants have gained from the programs, and whether they intend to make changes on their operations based on what they've learned.

Respondents to a survey distributed at the Farm Food Safety sessions indicated that the program made them more aware of issues related to food safety on farms, helped them identify improvements for handling and storing crops safely, and allowed them to learn recommended practices for improving the safety of their crops. Respondents also indicated that they intend to make changes on their operations, including testing water, developing food safety plans for their farms, improving animal control practices around the packing house, installing UV sanitizers, and improving field sanitation.

We plan to follow up with a subsample of participants six months after the programs to see what changes they have made on their operations and evaluate the need for additional education if they continue to have questions on food safety.

Beneficiaries:

The direct beneficiaries of the project activities were farmers and agricultural service providers. 15 food producers and 12 agricultural service providers attended the workshops that were executed as a result of the projects activities.

Lessons Learned:

Fulfilling the activities of this project has led to a great deal of lessons learned. We were surprised that we had lower attendance at the workshops than anticipated. We found it

challenging to get farmers at the workshops despite the extensive outreach that was done before the workshops. Speaking one on one with farmers we learned that many folks either felt they didn't need to learn about Food Safety because they felt they were already doing a good job with it on their farm; or they didn't want to learn about Food Safety in response to being frustrated about what they perceived as rules coming down from the federal government. It was clear that there is a lot of misinformation about food safety regulations. Linda Tittus, our consultant was a wonderful presenter that helped to dispel these myths and make Good Agricultural Practices much easier to understand for the producers and service providers who attended the workshops.

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Project 2

Project Title: NH Farmers Market Summer TV Spots on WMUR- TV

Applicant: NH Farmers' Market Association, in partnership with NH Made

Final Report previously submitted

Project Summary:

The New Hampshire Farmers Market Assoc.(NHFMA) purchased a series of television spots on WMUR TV promoting NH farmers markets during the summer of 2011. This built on a TV spot already developed by the NH Department of Agriculture.

WMUR -TV is a very prominent TV station for local news and programming in our state. The NHFMA is convinced that advertising farmers markets on this station was an excellent way to reach out to consumers in our state. The TV spots were aired at a peak time during the summer season when consumer interest in farmers markets is strong.

TV spots during the summer featuring NH farmers markets enabled our organization to further its mission to educate consumers on the benefits of a healthy lifestyle acquired through locally grown agricultural products and understand the social, environmental and economic benefits of this lifestyle to themselves as well as farmers.

Project Approach:

The NHFMA worked closely with Robert LeBlanc at WMUR-TV to first edit an existing TV spot that had been developed by the NH Department of Agriculture. Our organization's name and website information was added to the bottom of the screen which scrolled the entire spot. Our two sponsors; the NH Farm Bureau Federation and the NH Vegetable and Berry Growers Association names were added to the end of the spot. This editing was at a low cost and did not affect the number of TV spots that were able to be aired. A contract for a proposed time schedule

of TV spots was signed in May of 2011. A total of 71 spots were contracted to be aired in June and July. This was more spots than the original proposal which had planned for 48 spots. These TV spots featuring NH farmers markets were run from June 13th to July 17th, 2011. The spots were aired during “News 9 at Noon”, “Ellen”, “Daybreak” and a station rotation. The NHFMA website posted information about the TV spots on our website. The NH Farm Bureau Communicator publication ran a story on the TV spots in their May/June edition. This publication has a readership of 4,700 NHFB members.

The NHFMA's 2010 grant proposal acknowledged that the average commodity break out at the farmers' markets might be 80% eligible specialty crops and 20% non-specialty crops. Our total project costs were projected to be just under \$6,000 so funds requested were \$4,800. Additional funding for this project was provided by two partnering agricultural organizations, the NH Farm Bureau and the NH Vegetable and Berry Growers Assoc. These funds were to cover the 20% non-specialty crops at farmers' markets. Each organization provided funding in the amount of \$1,000 for the project. All monies except for that used to make a small edit to the existing farmers market TV spot were used to pay for airing the ad. WMUR-TV was also able to offer additional spots at no extra cost in support of agriculture in our state.

Goals and Outcomes Achieved:

The NHFMA measured the success of the TV exposure by tracking visits to our newly updated website by using Google Analytics when the TV spots were broadcasted. The NHFMA expected that the visits to our website will increase by 50% for an increase of about 1,200 visits in June and a similar increase in July. The NHFMA is currently using the social media Twitter and Facebook as well to obtain data and feedback from our “fans”. As of August 2010 the NHFMA had 465 fans on Facebook and 16 followers on Twitter. Currently the NHFMA has 720 fans on Facebook. The website had an overall increase of 15% in visits during the period when the TV spots were aired. This is a lower number of visits from what was expected. This may be due to the fact that not all viewers were prompted to visit the website although may have been reminded to shop at their local farmers market. Direct traffic to www.nhfma.org during the same time period increased 58% from 2010. This may indicate that the New Hampshire Farmers Market Assoc. is becoming a known resource for information about markets in our state. An increase in direct traffic is linked to customer loyalty and developing brand identity.

Beneficiaries:

There are currently 85 farmers markets in New Hampshire in 2011. There are over 4000 farms in New Hampshire. Farmers in our state are increasingly using direct marketing to sell their products. These venues include farm stand, pick your own operations, greenhouse/nursery and farmers markets. Farmers markets bring the farm to the community offering consumers the opportunity to interact directly with producers. Farmers markets offer a sense of community and re-energize cities and towns. TV spots on WMUR with our proposed schedule of time slots had a reach of 600,000 persons over 18 years of age. This also reached 300,000 persons in the same age range 3 or more times.

The NHFMA worked with WMUR TV to produce a NH farmer's market TV spot which were featured during June and July 2011 as 71 spots which were viewed at key times for our audience. This built on already existing NH Department of Agriculture TV promotions were planned for

the summer of 2011. Various time slots were utilized to best reach our target audience within our budget. Work on this project began as soon as the grant was awarded in the fall of 2010 to ensure that the TV spots were produced by May 2011. TV spots aired in June and July of 2011. At that time data regarding visits to the NHFMA website was collected.

Lessons Learned:

This project required sufficient time for obtaining sponsorship, editing, planning of the spots, finalizing the contract and analyzing data from Google Analytics. It was learned that it is difficult to measure the success of the TV spots based solely on tracking visits to the NHFMA website and followers on Facebook. The number of farmers markets in New Hampshire has remained steady; 89 markets in 2010 and 85 markets in 2011. An important goal in our state is to sustain the existing farmers markets in operation. Maintaining the market base is more difficult to measure than when farmers markets were developing.

Partnering with two other long standing New Hampshire agricultural organizations with similar missions made this project successful.

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In partnership with NH Made
Sponsored in part by grants from:
The New Hampshire Department of Agriculture, Markets and Foods

Project 3

Project Title: Specialty Crop Equipment-Sharing: Enhancing Farm Yields and Local Food Supplies

Applicant: The New Hampshire Institute of Agriculture and Forestry (NHIAF)

Final Report previously submitted

Project Summary:

Across New England, small specialty crop farmers and the professionals who assist them are searching for the best ways to leverage statewide equipment inventories among a number of public, private, and commercial organizations to increase farm yields and reduce labor and other inputs. Production bottlenecks exist for many specialty crop farmers due the constraints and limits of manual labor, and a gap exists in being able to afford additional and often specialized equipment to increase production/yields.

Looking to close this shortfall, the obvious solution is an effective equipment sharing plan among local farmers; but how to implement a solution that *really* works for the seemingly infinite number of farmers' needs and circumstances was the question.

During 2011 (Year One of the grant period), NHIAF examined the existing situation and surveyed local groups of farmers and support organizations throughout New Hampshire.

During 2012 (Year Two of the grant period), NHIAF prepared an Internet platform-based solution set that also includes legacy access/communications for those who do not use technology. We tested the system(s) developed with a “soft launch” in June, with plans for a 2013 full rollout and ongoing transactional (rentals/sales/swaps) records/reports, as well as qualitative surveys to track improvements in yields among all the equipment-sharing farmers.

Project Approach:

NHIAF began this grant examining the state-wide (and border towns) geography in order to propose and implement an effective solution(s). The two overarching goals were to increase the profitability of specialty crops for all farmers and increase the supply of affordable specialty crop products for consumers. We focused on the benefits that could be achieved to this end by reducing equipment and labor expenses (greater access to mechanical advantage in using tractors, implements, and tools).

In so doing we identified/profiled the following:

1. Farmers: who are the groups most in need of a shared equipment model and what are their characteristics
2. Equipment: what items are most beneficial, what inventories already exist, what is needed, how more equipment can be capitalized. Also how to expand equipment accessibility to other locations of the state with little to no equipment availability
3. Support Systems: What systems already exist, how they function, are they effective. The goals were to determine best practices, replicate them and add improvements.
4. Increased yields: What positive quantitative gains could be realized individually and collectively by an effective inventory and system of equipment-sharing
5. Measuring results: how baselines can be established and yield improvements measured
6. Outreach and communications: how we can promote and encourage equipment-sharing, especially among and for our newest farmers
7. Development of equipment-sharing platform with emphasis on specialty crops; create a flexible yet effective way to accomplish equipment-sharing transactions

8. Subdivision of the state into 8 regions in order to localize equipment pools/sources and minimize pick-up/delivery expenses

Contributions of project partners and information sources:

1. NHIAF staff: surveys, interviews, field tests, administration, reporting
2. Small and Beginner Farmers of New Hampshire (statewide): existing equipment inventory and system analysis, member and leadership interviews
3. Greenstart NH (Seacoast Region): existing equipment inventory and system analysis, member and leadership interviews
4. Cheshire County Conservation District (Monadnock Region): existing equipment inventory and system analysis, member and leadership interviews (through Greenstart, their equipment-sharing partner)
5. Cooperative Insurance and Farm Family Insurance Companies (NH and VT agencies): interviews
6. NH Farmers: interviews and farm visits
7. Rental Agencies (statewide): interviews and visits
8. Database and rental software companies/applications: reviews, interviews, demos and testing

Goals and Outcomes Achieved:

1. Identified existing statewide inventories of specialty crop equipment available for use at reasonable cost (0-\$50/day)
2. Ruled out sources of equipment that were cost-prohibitive (\$50+/day)
3. Identified and interviewed managing organizations of existing statewide inventories of specialty crop equipment
4. Categorized and prioritized groups in need of shared equipment
5. Determined liability risks and methods of establishing insurance coverage
6. Determined categories and prioritized items of equipment (primary equipment like rototillers and bedshapers; secondary/support equipment like generators and equipment trailers)
7. Analyzed equipment sharing systems and information support platforms
8. Developed recommendations for optimal statewide equipment rental
9. Small Beginner Farmers agreed to work with NHIAF to establish a new common equipment-sharing system.
10. Development of equipment-sharing platform with emphasis on specialty crops; create a flexible yet effective way to accomplish equipment-sharing transactions; a turn-key system implementation for existing equipment inventories, including online database with a rental "kit" (standard operating procedure/manual, including training for renter/operator), tracking for each piece of equipment, etc.

The online rental database is accessible from any computer that has access to the Internet and anyone who has permission. It is also accessible from web sites of sponsoring/vendor organizations/companies. Those organizations with databases may bulk import their equipment onto the platform.

The online database is located within the www.nhfarmfresh.com web site, and equipment may be accessed by keyword/item, category (“Equipment”), or by New Hampshire region as illustrated below:



The specialty crop equipment-sharing option will also be assigned an independent URL that points to its page (www.nhfarmfresh.com/equipment), and the database will also be linked within the user forum. The goal is to allow easy access to the database from many points within the user interface and environment.

Ongoing efforts will publicize the equipment-sharing platform and affordable programs and establish sponsor relationships with equipment dealers in order to increase the pool of available specialty crop equipment including such priority items as rototillers, generators, small tractors, implements, etc.

Beneficiaries:

Groups/Operations (in order of need/priority, as well as participants of current programs):

1. First-year farmers (severely undercapitalized, fewer than 2 acres of fruit/vegetable production, not yet profitable)
2. Small and beginner farmers (undercapitalized, fewer than 10 years' experience, less than 5 acres fruit/vegetable production, likely not yet profitable)
3. Small established farmers (capitalized, more than 10 years' experience, 5-10 acres fruit/vegetable production, possibly not profitable)

4. Potential impact to borrowers in Year 1 could feasibly allow approximately 100 specialty crop farmers (typically of the market gardener, small acreage demographic) to increase yields by a factor of 20% with greater automation, especially through the availability of larger scale tillage equipment (e.g. substituting a small-scale rototiller with larger tractor/plow/harrow solution). As an example, a market gardener that increases in size from 2 to 5 acres of strawberries due to tillage automation could more increase production from 20,000 to 50,000 pounds of fruit.
5. Potential impact to farmers who lend equipment 10 times per year could result in additional revenue of \$500/season or more. Such an incremental amount of revenue could be used to purchase items such as another half-acre of fruit/vegetable seeds, drip irrigation supplies, or extra row cover.

Of note: Larger and well-established specialty crop growers were understandably found to be highly averse to risking crop yields on shared equipment that could be unreliable and/or unavailable. Larger growers also do not have other off-farm employment to buffer them from crop loss due to weather and other factors such as equipment lack/loss/failure. They may also be principally livestock/forage farmers who may have smaller specialty crop production. Thus, larger and longer-established growers are not typically considered to be beneficiaries of equipment-sharing programs. The goal for specialty crop growers is to support them in the beginning stages of their businesses so that they can acquire the full complement of necessary equipment for profitable crop production.

Findings/Impact of project to beneficiaries:

1. Farmers in close community settings (farm business incubators, educational farms/groups, granges, etc.) more likely to borrow equipment throughout season. New farmers require close supervision of equipment use/return/maintenance, largely due to first-year overwhelming task loads, lack of experience, and financial pressures/stress. This group also likely to share even lost-cost items like hoses, specialty hand tools, and backpack sprayers.
2. Other farmers, usually within the same county, were only likely to rent/borrow equipment 1-2 times per season.
3. Young farmers (20-30 years old) were more likely to share assets and equipment due to communication “facilitators” such as texting and social media (Facebook, Twitter, etc.)

Lessons Learned:

1. Most commercial rental companies price equipment higher than the target groups can afford.
2. Local groups that share equipment are usually hay/forage producers and often have multi-generational long-term relationships. New farmers typically take years to establish trust and respect with these established farm families.

3. Most available shared equipment in NH is for livestock production and cover-crop/no-till research. Very little fruit and vegetable equipment.
4. Without adequate publicity and outreach, even equipment that is available and affordable will go largely unrented
5. Equipment purchased for sharing in member-type or local organizations must be chosen carefully by experienced NH farmers; too much cheaply made equipment quickly breaks down under the stress of a sharing system. Ground preparation equipment must be especially robust due to NH's rocky soil.
6. Equipment will need to be cleaned before use by certified organic producers in order to prevent contamination and to remain in compliance with the organic production standards
7. Small Beginner Farmers' "caretaker" model of equipment-sharing is now organized and improved, and they have been active partners in working with NHIAF.
8. Insurance issues are easier to resolve than farmer interviewees assumed. Insurance education is needed and transactions between farmers should be carefully established.
9. The best way to capitalize new shared equipment is to establish relationships with equipment dealers as sponsors for non-profit agricultural service organizations.
10. First-year (baseline) yields were nearly impossible to measure, due to lack of rental records of equipment-sharing organizations.
11. Creating a software platform for equipment-sharing usable by mainstream farmers and rental companies required a high level of technical sophistication. Functionality of the project site and scope of work needed to be monitored and explained to non-farming software engineers.
12. Consider alternatives to equipment sharing. Used equipment sales, plans to build certain implements affordably (e.g. raised bed shaper and mulch layer). Allow transactions, education, and collaboration on the Internet-based equipment-sharing platform.
13. Devote resources to "quantum leap" equipment solutions, (e.g. sources and plans for crop rollers paired with seed drills to reduce field passes *and* weeds)

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Additional Information:

1. Small Beginner Farmers of New Hampshire (equipment inventory, available only to members and mostly to support livestock production) www.sbfnh.org
2. www.GreenstartNH.org (equipment rental for applied agricultural research)
3. www.RNJohnson.org (large agricultural equipment rental)
4. www.cheshireconservation.org (farm service organization with selected pieces of equipment)

5. www.lucyhardware.com (small/affordable hardware store/rental agency with spreadsheet of equipment online)
6. MIT Farm Hack (a local/regional project of the National Young Farmers' Coalition)
7. www.rodaleinstitute.org (strategies for specialty crop development and efficiencies/yields)
8. www.force.com database and associated applications (back-end software for customer relationship management)
9. www.nhfarmfresh.com web site platform with integrated software (see above)
10. NH Farm Fresh Forum: <https://groups.google.com/d/forum/nhfarmfresh?hl=en>
11. NH Farm Fresh Forum email: nhfarmfresh@googlegroups.com (note: all emails sent to group post to forum above and vice versa)
12. NH Farm Fresh mobile application, generated automatically by use of handheld or tablet computing apparatus

Project 4

Project Title: Feasibility of Using Existing Greenhouse Structures to Increase Production of Winter Vegetables and Herbs

Applicant: University of New Hampshire Cooperative Extension, Dr. Becky Sideman, Associate Extension Professor/Specialist; Sustainable Horticulture, Project Leader. Dr. Brian A. Krug, Assistant Extension Professor/Specialist; Greenhouse and Floriculture crops, Project Partner

Final Report

Project Summary:

In this project, we investigated the feasibility of producing salad greens during the winter months by taking advantage of greenhouse space that was vacant during winter months. The goal of this project was to fill a gap in knowledge about winter greens production, to increase production of locally produced winter greens, which are in high demand.

At the start of this project, and still currently, there are not enough producers growing salad greens during the winter months to meet the demand of the winter farmers markets. There are many reasons for this, ranging from greenhouse space limitations, high cost of production of some winter crops, and higher risk involved with winter production. Also, some growers have been reluctant to experiment without information pertaining to growing techniques and production budgets.

This project was designed to confront each of these barriers. Although many of the vegetable producers in New Hampshire do not have adequate greenhouse space, there are numerous operations that produce bedding plants that have underutilized greenhouse space from late fall to early spring. Our objective was to create opportunities for both vegetable and bedding plant producers, and to identify the most limiting constraints of winter vegetable production in greenhouses and solutions to overcome these limitations. We also sought to develop tools that growers could use to evaluate the profitability of this enterprise (enterprise budgets) before embarking upon winter production of promising high-value greens crops.

Our primary goal was to help vegetable producers meet the increasing demand for year-round access to locally-grown vegetables and herbs in New Hampshire by generating the knowledge they need to help them be successful in this endeavor.

While this project did not build upon prior SCBG projects, the knowledge generated is complementing and enhancing a new SCBG project that just began (PI Bryant), focused on winter growing in Northern NH in unheated greenhouse structures. Throughout the duration of the project, it complemented the NE-SARE project entitled “Expanding winter harvest and sales for New England Vegetable Crops” (Hazzard, Brown, Sideman, Han, Donald, Patterson, Coleman, and Morenon). The NESARE project focused on 1) enhancing the marketing efforts of Seacoast Eat Local, and 2) improving vegetable growers’ ability to store traditional fall/storage vegetables in cost-effective ways, and 3) exploring low-cost field overwintering structures to permit very early spring harvest of very hardy crops, whereas this project sought to enhance capacity for actual winter growing in high quality greenhouse space that can be heated.

Project Approach:

Our project had four major components: 1) Media trials, 2) Variety evaluation (yield, rate of growth, and germination conditions), 3) Profitability analysis, and 4) Outreach.

Specific significant results, accomplishments, conclusions and recommendations are listed below under “Goals and Outcomes Achieved”.

Significant contributions and roles of project partners:

- B. Sideman, Extension faculty - co-designed experiments, served as secondary mentor for graduate student, conducted outreach
- B. Krug, Extension faculty - co-designed experiments, served as primary mentor for graduate student, conducted outreach
- C. Collie, Graduate student – co-designed and implemented greenhouse experiments beginning in Fall 2011, conducted outreach

Goals and Outcomes Achieved:

Our activities and significant results, accomplishments, conclusions and recommendations throughout the duration of the project can be summarized as follows:

Research: Media & greens growth

In a bench-top production system, we showed through experiments that media choice greatly impacts both profitability and production. Media showed significant differences in consistency and growth of greens, and prices of different media varied by a factor of two or more. We compared the rate of growth of three common salad green species (lettuce, spinach, mizuna) in five combinations of media and source of fertility. Preliminary results showed highly significant differences, with compost-based media and conventional peat mix with conventional slow-release fertilizers outperforming conventional peat mix with organic slow release fertilizer and with no added fertility. [An extension publication describing these results](#) was prepared and disseminated.

Research: Screening of several species and varieties of greens

We have completed a preliminary screen of several unusual species and varieties of greens. In this experiment, we compared rate of growth and relative potential yields, as well as qualitative traits. An example of very useful information that we learned was that heated winter greenhouse conditions are ideal for downy mildew development; and that

cultivars with downy mildew resistance should be selected over those without resistance. **[An extension publication describing these results](#) was prepared and disseminated.**

Research: Profitability Analysis

At the beginning of our work, we knew that rate of growth changes with seeding date, due to a combination of decreasing heat and light during fall and increasing heat and light during the spring. One primary objectives of the proposed work was to tease out the effects of heat and light, to be able to provide recommendations to growers about how seeding date and greenhouse temperature would impact yields, and profits. In year two, we completed a second set of experiments that determined days to harvest maturity of three common greens species (lettuce, spinach, mizuna) at wide range of seeding dates spanning the fall and spring seasons, with two different minimum temperatures (40F, 50F). We documented over two years and four seasons how rate of growth changes over time for these species, and factored this information into our enterprise production budgets. **An enterprise production budget for winter greens has been developed and is in the final review stage. It will be available for producers within the next month.**

Outreach

Throughout this project, outreach has been a primary focus. In addition to the written publications described above, this has included presentations to grower and industry groups, one-on-one consultations with growers, and regular updates through our *wintergreens* blog and UNH Extension's greenhouse floriculture facebook page. *In total, over 250 growers in NH have learned about the results of this project in person, and we estimate that several thousand have accessed information about project results through one of several electronic formats.*

Some of our most noteworthy outreach events included:

Two videos distributed through Greenhouse Grower Magazine, by C. Collie and B. Krug.

<http://www.greenhousegrower.com/video/plant-culture/v-salad-greens-as-greenhouse-gap-crops-basics-for-winter-benchtop-production/>

<http://www.greenhousegrower.com/video/plant-culture/v-salad-greens-winter-benchtop-production-basics/>

Wintergreens Field Day. Over 90 growers attended this meeting, which highlighted research on winter greens production funded by this project and NHAES. Co-coordinated with Brian Krug (UNHCE) and Claire Collie (UNH). 3/13, Durham NH

Wintergreens at UNH Blog, by C. Collie, located at <http://wintergreensatunh.blogspot.com/>. An average of 10-20 views per day, from viewers located worldwide.

B. Krug. **UNH Cooperative Extension Greenhouse & Floriculture Facebook page**, located at <https://www.facebook.com/pages/UNH-Cooperative-Extension-Greenhouse-and-Floriculture>. Over 180 followers.

B. Sideman. **Scheduling for winter harvest.** *Presentation at Winter growing workshop for organic producers, Feb. 2012 – Two locations, 70 growers total.*

Presentation to the Ohio Florists' Association Meeting, by C. Collie and B. Krug. March 2012

Research Field Day at Woodman Farm, C. Collie, B. Krug. Winter greens for off-season greenhouses. *Presentation to 100 growers.* Oct. 2012. Durham NH

Summer Flowers, Winter Greens: Can ornamental greenhouse space be utilized for off-season greens? K. Hatt. Article written profiling the project in Growing magazine, August 2011.

Goals and Outcomes Met

We identified several goals and outcomes in the project proposal. These are listed below, along with the outcomes attained during the project completion:

Goal 1. Based on experiments to evaluate and optimize winter production practices for greenhouse vegetables and herbs in NH, detailed recommendations for most productive species and cultivars, light requirements and crop nutrition needs will be developed.

Early in the project, we determined that adding supplemental lighting as a factor in our experiments was not feasible due to time constraints. In addition, infrastructure costs were high enough that most producers were not contemplating this practice. As a result, we focused on crop production methods, greens variety evaluations, and germination and growth rate studies for several salad greens species.

Goal 2. Production budgets for five high-value vegetable and herb crops will be posted on the University of New Hampshire Cooperative Extension website in 2013 and the number of times the budgets are accessed will be tracked. Budgets will also be posted on the UMass Winter Growing website (to be created as a part of the NESARE proposal described above).

Production budgets were developed for three high-value greens crops, and the tool that encompasses these three budgets is about to be released. Again, early in the project we determined that focusing on species that require high temperatures (e.g. basil) in addition to those that are tolerant of cooler temperatures (e.g. greens) was not going to be feasible because it would double the space and time needs, as well as dramatically increase heating costs. As a result, we chose to focus on greens solely.

Goal 3. 40 participants attend the two twilight meetings (20 at each twilight)

Goal 4. 60 participants attend two winter growers' workshops offered in different locations in New Hampshire

We exceeded these goals considerably. In total, over 250 growers in NH have learned about the results of this project in person through workshops and twilight meetings, and we estimate that several hundred have accessed information about project results through one of several electronic formats.

Goal 5. 15 producers will begin or increase winter production of winter vegetables and herbs.

Surveys were conducted at the beginning of the project in 2010-11 to assess demand for vegetables at winter farmers markets in seacoast NH. Informal observation was conducted during 2013-14 winter farmers markets and participants were surveyed at a winter growing workshop in March 2014. During these years, winter greens production has not increased significantly, and demand remains very high. In part, this may be due to the fact that outreach on our project has just gotten underway, and we anticipate that more adoption will occur during the

coming years. However, because this crop will not be profitable in all situations, we feel that adoption is not necessarily the goal, and success can also be measured in terms of growers saving money by not adopting this practice in some cases. We know that at least five producers have begun to experiment with winter greens production and have benefited from this work, and we estimate that at least five more have used the information we have generated to decide not to embark upon winter greens production. As a part of our continued program evaluation over the long term, we plan to continue to monitor winter greens production in general, and the impacts of this project specifically, over the coming several years.

Beneficiaries:

- Greenhouse producers were our primary target beneficiary group. These growers have greenhouses with heating systems that are typically left fallow during fall and early winter months. We have generated knowledge and tools (enterprise budget) that will help these growers evaluate profitability of winter greens production.
- Vegetable producers are a secondary beneficiary group. Those producers who grow greens in unheated greenhouses grow many of the species and need the same basic production information that we generated (rate of growth, relative yields, etc.) and may be making the decision whether or not heating would improve profitability in their production system.
- Consumers are a third beneficiary group, assuming that more producers adopt winter greens production. If this is the case, consumers will have increased access to fresh locally-produced vegetables and herbs during the winter months.

We estimate that 15 growers have benefited from the accomplishments of this project, and that this number will increase as outreach continues. The potential economic impact of this project is yet to be realized, and we have not yet measured it. According to our calculations, net returns are highly variable but could \$7,000 or higher (depending on greens species, price received, labor costs, production season, and many other factors) per 30x96 greenhouse. This could result in significant economic impact for NH growers.

Lessons Learned:

This project was a learning process in many ways. To accomplish the project goals, we recruited a graduate student, whose primary research and outreach focus was this project.

One logistical lesson we learned was that, while our grant funded our graduate student's stipend, it did not cover her tuition (\$14,000 per year) and that we needed to budget this into future grant efforts. Also, we underestimated the amount of time that I would spend as PI with this project. We may have also underestimated the amount of time that Brian, as co-PI and primary graduate student mentor, would spend.

An unexpected positive outcome that came from this project was a result of the specific student with whom we worked. Claire's strengths in visual design and layout, and her passion for sharing the project with a non-scientific audience (e.g. the *wintergreens* blog) brought new outreach strategies to our programs, which we are continuing to use currently. Somewhat more

expected, but still positive, was the nice synergism between Extension greenhouse and vegetable programs in this research area that spans these two disciplines and audiences.

In framing this project, which was driven by real-world problems raised by growers, we were perhaps excessively optimistic about what we could accomplish given the time frame and labor involved in this project. We had initially thought we could study both salad greens and herbs in way that would provide solid information for producers. Once we got into the project, we needed to adjust our course, and felt that it was better to produce more solid, in-depth information in one production system rather than divide our limited time and funds between two very different systems. In the future, I plan to use this experience to focus our efforts rather than to try to do too much.

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Additional Information:



Salad greens as a hot commodity in winter farmers market, Feb 2010 in Rollinsford NH.



Some of the many species evaluated in our bench-top production system.



Spinach downy mildew, evident on the susceptible cultivar 'Space', Winter 2012.

Project 5

Project Title: Promoting Specialty Crops in New Hampshire: Increasing Sales of Fruits and Vegetables to Federal Nutrition Benefit Clients at New Hampshire Farmers' Markets

Applicant: The International Institute of New Hampshire, Teena Hayden, Project Leader

Final Report previously submitted

Project Summary:

Background

Nationally, farmers markets and farm stands selling specialty crops (vegetables, herbs, and fruits) are increasingly marketing to federal nutrition program beneficiaries. There are a number of federal nutrition benefits that allow vulnerable families to shop at farmers' markets and farm stands that sell specialty crops. The largest of these is the Supplemental Nutrition Assistance Program (SNAP). SNAP purchases are made, much like a credit or debit card, through an EBT system that allows a recipient to purchase products from a vendor. In 2009, the SNAP program provided an estimated \$38 billion to some 32 million clients, and \$115 million of that benefited low-income residents of New Hampshire.

While SNAP had a direct impact on those enrolled, it also benefited local economies. The USDA Food and Nutrition Service originally created the food stamp program as both a nutrition program for low-income families and an agricultural stimulus program. When specialty crop farmers accept EBT cards directly, the program serves both farmers and families as originally intended. The U.S. Department of Agriculture's Economic Research Services estimates that each \$1 billion of retail demand by federal nutrition benefits generates \$340 million in farm production, \$110 million in farm value-added, and 3,300 farm jobs. Every additional \$5 of federal nutrition benefits is estimated to generate \$9.20 in total economic activity.

Despite these documented benefits to local economies and producers, Manchester did not have a farmers' market that accepted EBT cards, meaning that low-income residents did not have reliable access to locally-grown specialty crops and that only a small percentage of the redeemed federal nutrition program benefits were going directly to local growers of specialty crops. Sadly, only 66 percent of the estimated 87,000 eligible individuals and 58 percent of the estimated 34,000 working poor in New Hampshire actually participated in the program in fiscal year 2007.

Motivation

According to reporter Dan Gorenstein of NH Public Radio, demand at soup kitchens, food pantries and shelters in NH, has increased 15%². Similarly, the NH Food Bank is currently distributing 15% more food and receiving 45% less in corporate donations and gifts than this time last year³. With demand increasing and supplies decreasing, access to fresh, healthy, locally grown specialty crops for low income families in Manchester, NH is becoming all the more difficult.

Project Approach and Goals and Outcomes Achieved:

- Expansion of International Farmers Market

The International Institute of NH and its Rooting New Americans Agriculture Program, operates the International Farmers Market in two locations in Manchester, NH. This market focused on not only increasing access and sales of specialty crops to federal nutrition benefit clients but also on increasing sales for refugee farmers in and around Manchester. These farmers only grow specialty crops and do not create value added products, raise animals or operate dairy operations. In other words, specialty crops were the only items available for purchase.

During the summer of 2011, the Rooting New Americans Agriculture Program surpassed its expectations. Through the success of its International Farmers Market and Wholesome Wave's Double Voucher Coupon Program (DVCP), our farmers were able to provide \$10,004.50 of fresh, local, organic produce to over 513 EBT eligible families in Manchester, NH (see attached Wholesome Wave spreadsheet for more information). Farmers averaged \$385 per week

² Gorenstein, Dan. "Economy Stresses Food Safety Net." NH Public Radio [Concord] October 26, 2011

³ Gorenstein, Dan. "Economy Stresses Food Safety Net." NH Public Radio [Concord] October 26, 2011

for 13 weeks with two markets a week and received their first substantial income from the program.

This is in comparison to the 2010 market which started on August 3, 2010 and ended on October 26, 2010 completing a total of 13 markets. During this period the market averaged \$154 per week for a total of \$2000 in sales for the season. The success of the 2011 market season is a result of this Specialty Crops Block grant enabling the RNAAP to hire a market manager, Gabriella McNevin, and her ability to focus on three goals; market management, awareness and accessibility.

The International Farmers Market was open twice a week, accepted EBT, utilized Wholesome Wave's DVCP and distributed surveys. The market manager supervised the daily operations of all of these aspects of the market including the summarizing of results at the end of each market. Also, all outreach and promotion of the market was conducted by Gabby and was instrumental in the market's success. In other words, without the market manager, neither the farmers nor the customers would have benefited so greatly from the market and its impact would have been greatly diminished.

To increase awareness, the RNAAP targeted organizations, community leaders and programs that work with low income populations. One successful example of the RNAAP's efforts was through Child and Health Services and their subsequent promotion of our market as a venue to purchase inexpensive, healthy produce. Subsequently, the RNAAP had multiple families visit the market to purchase fruits and vegetables with their EBT cards. Similarly, the RNAAP made presentations at local ESL classes to explain our market and the DVCP program which equated to an increase in awareness and participation (note trend on attached graph).

The RNAAP also developed promotional material in multiple languages with the addition of visual aids for illiterate customers. These materials were also distributed to organizations, community leaders and programs that work with low income populations. A unique consequence of the RNAAP farmers being refugees was the variety of ethnic foods being grown and sold. To help unaccustomed customers understand how to cook the unfamiliar food, the market manager, Gabriella McNevin, created simple recipe cards which were distributed at the market.

The RNAAP increased the accessibility of its market although its implementation evolved from the proposal. The RNAAP continued the market on the east side of the city at IINH's office, but rather than start multiple farm stands throughout the city, the RNAAP focused its resources on developing a second market location on the west side of the city in Lafayette Park. Prior to the market, there was no market on the west side and, although this area is not considered to be a food desert by the USDA (see <http://www.ers.usda.gov/data/fooddesert/fooddesert.html>), for many residents the closest supermarket is over two miles away. Subsequently, those residents with no or limited transportation are forced to do the majority of their shopping at convenient stores where there is often little to no fresh produce. At the west side market, farmers were able to provide over 59 families in this community with \$4344.75 in fresh, organic produce.



Margarita and Fortunee selling their produce at the International Farmers Market

- Market Farmer and Community Gardener Land Development

Prior to September 1st, 2011, the RNAAP was operating and managing 5 locations encompassing the greater Manchester area: 1) one quarter acre market garden plot with two NRCS funded hoop houses (600ft² each) at the Sununu Youth Services Center (SYSC) in Manchester, NH; 2) twenty 20'x20' community garden plots at Brookside Church in Manchester, NH; 3) two 20'x20' community garden plots at World Revival Church in Manchester, NH; 4) one 24ft x 48ft greenhouse in Bedford, NH, and; 5) a one acre market garden plot at Sun Point Farm in Derry, NH. Although the RNAAP is fortunate to have multiple partners in multiple locations, the immense strain on resources, accessibility and time made this model unsustainable. Consequently, the RNAAP identified the Sununu Youth Services Center as an ideal location for the RNAAP as it is within Manchester city limits, accessible by public transit, has 5+ acres of available space and the RNAAP has an existing partnership with the SYSC.

On September 15th, 2011 the RNAAP turned over 2.5 acres at SYSC for our new market and community garden location. With this garden we will be expanding our incubator program to include a total of 4 market farmers, each with .5 acres of land. We will also be expanding our community garden program to 35 refugees and will include five 10'x20', twenty 20'x20' and ten 20'x40' plots. By refocusing our resources to SYSC, RNAAP will not only be increasing accessibility to the gardens and, in doing so, be fostering independence, but it will also allow for the expansion of the program to include more participants.



Harrowing 2.5 acres at the Sununu Youth Services Center in Manchester, NH

- Agricultural ESL and Marketing Classes

In parallel to the physical aspects of our program, are the constant needs for ESL, marketing and literacy classes. To fulfill these needs we not only encouraged our farmers to attend at least one ESL class per week outside of our program, but required our clients to attend our program's courses which addressed topics through an agricultural lens. Topics included produce identification, proper use of a hanging produce scale, making change, calculating price per pound, visiting other markets to evaluate their displays and varieties, calculating income, pest identification, pesticide safety and environmental safety with each topic being covered during three, two hour sessions for a total of 27 weeks. All classes were taught by Judy Elliott, a contracted and certified ESL instructor.

- Transportation

Funding for stipends for a van driver and an interpreter during the growing season were secured from a local private organization called the Center for Community and Economic Development (Manchester NH). This organization was impressed with our program and partnerships and awarded the IINH agriculture program the largest single grant it has made, totaling \$7,560. The van was available Monday through Friday for both transporting the farmers to the farm and transporting produce to market.

- Project Partners

The long-term success of this project requires strong community partnerships. The International Institute has developed strong relationships with several key organizations associated with this project.

1. The Bedford Greenhouse Project in Bedford, NH provides a secure long-term location dedicated to developing a system for growing transplants for low income gardeners and extending the season for cool-weather ethnic crops.
2. Sun Point Farm in East Derry, NH is also committed to providing a safe and welcoming training site for immigrant and refugee farmers desiring to learn sustainable farming systems for a New England climate as well as develop a diversified agricultural business model.

3. Southern NH RC&D in Concord was instrumental in facilitating networking, negotiating government agencies associated with selling local vegetables to low-income WIC, Senior and SNAP (food stamp) customers, and acquiring private grant funds that met the match requirements for other project.
4. New Entry Sustainable Farming Program (Tufts University) in Dracut, MA extended their training workshop series to our beginning farmers, and with the van leased through a CIG, we were able to transport 6-9 individuals down to field workshops twice per month. Field trainings addressed hoop house propagation, equipment maintenance and farm safety, drip irrigation, laying out fields, pest management, cover cropping, marketing and compost production.
5. Through a NRCS hoop house grant, project and partnership, we constructed two hoop houses at the Sununu Youth Services Center in Manchester, NH, formerly the Youth Development Center (YDC). Hoop houses were/are used as a demonstration site for informational tours and are utilized by farmers for season extended growing. To date we have hosted two informational sessions and are currently partnering with the NH Food Bank to produce fresh, winter greens.
6. The Neighborhood and Community Garden Network ~ a loosely affiliated network of grassroots organizations that share resources, information, materials and equipment as needed to increase opportunities for residents of Southern NH to access garden space and supplies, for organizations to share information and funding opportunities, and for programs such as ours to distribute surplus seeds and vegetable plants. Through the Network, the IINH CIG program worked with Cooperative Extension, Project Able, the NH Food Bank, the Somali Bantu Community Center, and Catholic Charities to distribute transplants to low income gardeners. This Network was coordinated through the Southern NH RC&D office in Concord.
7. The Sununu Youth Services Center in Manchester, NH, formerly the Youth Development Center (YDC), has been more than generous with their land and facilities and we are moving all of our market gardening and community gardening projects to this location. This will allow us to better utilize our resources and enable our clients to independently access the garden.
8. The NH Food Bank in Manchester, NH has become a key partner in our program. For the last three years we have been sharing their garden at the YDC. We are looking to continue this partnership through the development of an indoor growing facility at the NH Food Bank's warehouse.
9. As a partner with the Manchester Health Department (MHD), MHD has been promoting our market as an affordable location to purchase healthy produce. Also through their Healthy Eating, Active Living (HEAL) program, we are working to identify corner stores in Manchester, NH that have an interest in selling produce. Once identified, our farmers are proposing to be their wholesale provider of fresh produce. Also, the MHD is considering including a nutritionist at our markets to provide educational opportunities to customers regarding the health benefits of eating produce.
10. The Manchester Department of Parks and Recreation has been instrumental in providing public space for our markets.
11. Through a partnership with NRCS and a CIG, we were able to develop a mentoring model for immigrant and refugee farmers over a two-year period with trainings

- focused on preparing them for the competitive local market, and develop an efficient and cost-effective system to extend the growing season for high-value vegetables unheated hoop house.
12. By partnering with the Manchester Multi-Cultural Center and their Fresh Start Farms Program, we were able to increase the impact of this grant by extending the opportunities to 10 of their refugee farmers.
 13. Through partnering with Manchester's Child and Health Services, we were able to identify customers who could benefit from our program while providing a location for doctors and health specialists to refer clients to purchase healthy, affordable food.
 14. The Wholesome Wave Foundation and its double voucher coupon program (DVCP) were instrumental in providing affordable food to low income customers. By providing funds to match the amount of money a customer spent, both the customer and the farmer were able to buy and sell twice as much produce as they might otherwise have been able to.
 15. The Harvard Pilgrim Foundation provided extra funds for the DVCP allowing us to extend the benefits through the entire summer.
 16. The Refugee Agriculture Partnership Program (RAPP) was crucial to the implementation of the Rooting New Americans Agriculture Program and continues to be a source of information and funding of future projects including the development of our new 2.5 acre garden at the Sununu Youth Services Center.

We projected an additional \$2000 by the end of 2010 season, so sales would total \$2750 for two farmers (combined) over 3 months in 2010. If we expand to 4 months in 2011, averaging \$500 per refugee farmer per month and grow our market to 10 refugee farmers, we should gross \$20,000 during 2011. That is a 600% revenue increase. With two farmers in our program pool of 50 ready to sell to the public in 2010 We were confident that we could encourage 10 farmers to participate in our market in the second year.

In regards to the outcomes listed above, the Rooting New Americans Agriculture Program achieved noteworthy outcomes considering the structural and environmental implications of the past year. More specifically, the transition between the previous program coordinator and the current program coordinator inhibited ideal program management and these effects were noted in a late start to the planting season and increased pest issues. Similarly, the physical structure of the program required clients to commute 20 miles to their farm site and this, along with clients' inability to drive, reduced effective management of the gardens and overall yield. Similarly, the distance and travel requirements reduced participation and the ability to increase the number of participants in the program and the markets.

Regardless, we increased sales for farmers from an average of \$143.17 per farmer in July to \$877.24 per farmer in August. In total, farmers averaged \$454.8 per month for four months. Also, during those months an average of 5.6 farmers attended each market and grossed \$10,000 in sales. In other words, although half of the projected farmers participated in the market, each individual farmer averaged close to \$500 per month. Sales would have surpassed the projected \$500 per month had production capabilities not been limited by transportation and time constraints.

As previously stated, there were barriers to reaching the projected outcomes. These barriers were addressed during the year by developing a 2.5 acre parcel of land at the Sununu Youth Services Center in Manchester, NH. This location is accessible by both walking and public transportation and will greatly reduce the travel strain on the clients and the program. Also, without a transition at the coordinator position, the clients and program will be able to take full advantage of the growing season and expand both production capabilities and market participation days. In doing so, the program is poised to have its most successful year to date and expand its impact to more customers and partners.

Beneficiaries:

- The Multi-Cultural Center's Fresh Start Farms program which also promotes and supports refugee agriculture projects was invited to join the International Farmers Market. In doing so, the farmers benefited from the work of the market manager and were also exposed to market opportunities. They averaged 3 farmers per market and with an average income of \$385 per week.
- Child and Health Services utilized our market as location for purchasing affordable healthy foods. Although we were not tracking referral rates, we had multiple customers' state that they were referred to the market by their child's doctor.
- Through a grant from the Nesenkeag Foundation, farmers received \$1.00 for every pound they donated to the NH Food Bank. In total the NH Food Bank received \$3000 worth of produce from the farmers.

Lessons Learned:

- We began our outreach and promotion program by focusing on organizations and community leaders that routinely interacted with the target population. Examples being the Rimmon Heights Community Association, Manchester Health Department, Child and Health Services and Workplace Success. Although these efforts had a positive effect, the immediate response was less than expected, note beginning low sales on attached graph. Consequently, we adjusted our outreach to implement a grassroots approach. By providing the farmers with outreach materials, they were able to directly target potential customers in their communities. Also, as previously stated, ESL classes were an excellent venue for directly explaining the program to customers. As the graph shows this translated to an immediate increase in sales.
- Although we did not directly track the ethnicity of the customers at the market, it was observed that a significant majority of the customers were not Caucasian. Despite efforts to target this population, success was minimal. This result is attributed to the myriad of vegetables being offered that were not recognizable and decreased proficiency of English by the farmers. The farmers recognized this trend as well and, as a consequence, are planning to grow more native vegetables for this coming market year. Also, the market is going to expand to include independent farmers from NH. It is projected that greater variety will increase participation in the community.
- The success of the market was limited by the availability of produce. Due to accessibility of the gardens and their size, the farmers were not able to grow a sufficient amount. To address this concern, on September 15th, 2011 the Rooting New Americans Agriculture

Program turned over 2.5 acres at the Sununu Youth Services Center (SYSC). With this garden we will be expanding our incubator program to include a total of 4 market farmers, each with .5 acres of land. We will also be expanding our community garden program to 35 refugees and will include five 10'x20', twenty 20'x20' and ten 20'x40' plots. By refocusing our resources to SYSC, we will not only be increasing accessibility to the gardens and, in doing so, be fostering independence, but it will also allow for the expansion of the program to include more participants. There are also plans to develop an additional 2.5 acres and expand the market garden program to nine .5 acre plots.

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Project 6

Project Title: New Hampshire Grows Workshop Series

Applicant: NOFA-NH (Natural Organic Farmers Association—New Hampshire)

Final Report

Project Summary:

This set of workshops provided a comprehensive statewide resource to strengthen relationships, leverage shared values, collaborate and partner on marketing, and implement targeted programs that enhance how New Hampshire's specialty crops are produced, competitively positioned and promoted, and safely brought to market.

These workshops set out to help New Hampshire Specialty Crop Producers develop four skill sets necessary to succeed in the marketplace: Effective Agricultural Marketing and Promotions, Use of Innovative Technology, Market Efficiency and Distribution, and Local and Regional Food Systems.

New Hampshire is at an exciting crossroads in its agricultural history, facing an unprecedented growth in specialty crop production, marketing, distribution, consumption, and advocacy involving diverse organizations such as large commercial farming operations, medium and small scale farms and gardens, CSAs, farmers' markets, community gardens, cooperative markets, local-sourcing advocates, direct-from-farm restaurants, slow food organizations, organic advocates, and other community-based efforts focusing on enhancing New Hampshire's access to locally grown specialty crops.

The project was not built on a previously funded project with the SCBGP or SCBGP-FB

Project Approach:

The workshops focused on helping specialty crop growers develop the skills they need to succeed in the changing marketplace. Through the New Hampshire Grows Workshop Series, specialty crop producers had the opportunity to develop skills from understanding soil health and business regulations to marketing crops.

Each in the NH Grows Workshop Series was chosen for its ability to increase a grower's competitiveness in the marketplace. The first task of the NH Grows Program Coordinator was to contact established and beginning specialty crop producers in New Hampshire. The producers were made aware of the goals of the NH Grows project and then queried as to what educational programs would be the most helpful. Thirty specialty crop producers were contacted and sixteen responded.

The overwhelming responses focused on the need to learn how to better manage soils to increase yields of specialty crops – through soil sampling, nutrient management and effective cover cropping systems for New Hampshire. Other answers that were in line with the goals of the project included support for the improvement of high-tunnel production, labor management, food safety, small-scale production, marketing, cultivation of specialty crops, equipment management, and educational resources on specific crops. Those responses were then synthesized into themes for the activities organized throughout the grant period: **soil management, production methods, tools, regulations and marketing.**

The full listing of workshops:

In 2012

- Cover Crop Walk
- The Ins and Outs of High Tunnels
- Draft Power
- Soil Health Twilight Tour
- Unlocking the Renewable Energy of Our Soil
- Holistic Orchard.

In 2013

- Winter Conference Farmer Intensive:
 - Small Grains for Baking
 - High Tunnel Production
 - Soils for Specialty Crop Production
 - Small Scale Intensive Production
 - Marketing Round Table
 - Bramble Production
- Business and Botanicals Conference
- Food Safety Planning
- Farm Labor Rules and Regulations
- Orchard Pruning
- Wholesale Success
- DIY Tractor Operations and Maintenance

High BioNutrient Crop Density Part I
Sustainable and Organic Farms Weekend
Grow More Garlic

In 2014

Bringing Back an Orchard
Winter Conference Farmer Intensive:
Marketing – CSA and Collaborative
Marketing to Institutions
Orchard Resilience
Cover Cropping
Organic No Till Production
High BioNutrient Crop Density Part II

Seven educational programs were held on **soil management**, including discussion of cover crops, intensive soil and nutrient management workshops, and twilight tours of area specialty crop farms. In the intensive soil and nutrient management workshops, each presenter covered the same basic information:

Soil sampling – how, when and interpreting results,

Nutrient management –when to apply minerals, compost, and fertilizers, and

The use of plant indicators for understanding soil health.

Different **production methods** of specialty crops were taught through the Small Scale Intensive Workshop and the No-Till Production Workshop. The Small Scale Intensive Workshop taught many Beginning Farmers a method of specialty crop production that would allow them to enter the commercial marketplace without owning a large farm. The No-Till Production workshop focused its information on how to use no-till methods for specialty crop production. Many of the larger scale specialty crop producers had mentioned this as a production model that they would like to consider implementing on their farms as a way of increasing yield while also improving soil.

Specific specialty crop production methods were also taught in the three orchard workshops, the garlic workshop, the brambles workshops, and at the Business and Botanicals Workshop. Season extension of specialty crops were taught through two workshops on high tunnel production

Tools for the cultivation of specialty crops were discussed in detail at the Draft Power workshop as well as at the DIY Tractor Operations and Management workshops. These hands-on workshops introduced producers to different tools for the cultivation of different crops as well as the discussion of the best timing for cultivation. The DIY Tractor Operations and Management Workshop also taught producers how to safely drive tractors, how to safely connect implements to tractors, and how to maintain implements and tractors.

The **regulations** regarding specialty crops were discussed through the Business and Botanicals Workshop, the Farm Labor Rules and Regulations Workshop, and the Food Safety Planning Workshop. The presenters included a lawyer and specialty crop producers with experience managing a labor force. The Food Safety Planning Workshop discussed ways to ensure the safety of specialty crops from field to market. Gaining access to current standards and

regulations of specialty crop production and marketing allows producers to implement the appropriate changes on their farms so they remain compliant with current legal issues. In addition, the farmer-to-farmer information exchange that occurs at these types of workshops allows producers to learn tips and techniques that have worked for others and might work on their own farms.

Marketing of specialty crops was discussed at four different workshops as well as through the Business and Botanicals workshop. These workshops discussed:

- how to create and market specialty crops through the CSA model,
- how to gain access to the wholesale markets
- and tips for marketing specialty crops to institutions.

These workshops were attended by specialty crop producers who were interested in gaining access to new marketplaces. Presenters from New Hampshire, Maine, Vermont and Massachusetts shared their experiences on creating new markets as well as tips on how to scale up production to enter the wholesale markets. The Business and Botanicals Workshop provided up-to-date information on regulations on and tips for marketing herbal products. This workshop was attended by beginning farmers as well as by established growers interested in learning not only cutting edge production techniques, but also how to market herbal products in a manner that is compliant with FDA standards.

NOFA-NH, developed the Sustainable and Organic Farms Weekend as a means to attract new customers to farms and farm stands. NOFA NH's financial contributions to the Sustainable and Organic Farms Weekend ensured that NH Grows funds were only used for participating specialty crop farms. To ensure that the event was marketed to a broad base of potential farm visitors, NOFA NH marketed the weekend using traditional marketing techniques, such as press releases and through NHDAMF, and on-line media including social networking, constant contact, and website promotion. Farm visitors were encouraged to tour additional farms through printed maps and fliers.

The approach of the NH Grows project allowed NOFA NH to identify the needs of the specialty crop producers in NH, and to work with regional partners to deliver the requested educational workshops. According to the NOFA-NH Food and Farm map (<http://nofanh.org/farming/farm-food-map/>), 120 of 183, or 66%, of member farms are specialty crop producers, meaning that all NOFA-NH communications reach mostly specialty crop producers. These workshops were often also advertised (via email newsletter, NOFA-NH website, press releases and word of mouth) as specifically for specialty crop producers.

The workshops were delivered around the state, at different times of the year, and with different teaching methods (from Power Point driven lectures to hands-on, skill-based workshops). The diversity of workshop topics and assumed skill levels helped meet the needs of beginning farmers as well as the needs of advanced growers. The workshops that were most highly requested, such as soil workshops, were offered several times over the course of the project with different presenters highlighting different approaches to understanding soil health. The NH Grows Workshop Series taught the skills and knowledge that specialty crop producers in New Hampshire identified as necessary to increase competitiveness in the marketplace.

Significant results and accomplishments

Significant results included the inaugural Farmer Intensive Day at the NOFA NH 2013 Winter Conference with over 75 farmers in attendance. The success of this program was built upon in 2014 at the NOFA NH Winter Conference with approximately 60 farmers in attendance. The Farmer Intensive Days allowed learning opportunities for specialty crop producers that ranged from beginning farmer skills to advanced farmer skills.

One significant accomplishment of the New Hampshire Grows Workshop Series was the development of a new website for NOFA NH. This website was launched in 2013 and allowed for online workshop registration. Other features of the website include Organic Price Index, Calendar of Events, Farm and Food Map, Policy Concerns, Farm Apprentice and Mentoring, and an Employment section. The website receives an average of over 3,000 views per month.

A second significant accomplishment of the New Hampshire Grows Series was the first Annual Organic and Sustainable Farm Weekend in which 25 farms were toured by hundreds of visitors. Of the 25 farms that were open for visitors, 18 were specialty crop farms.

Project partners

The New Hampshire Grows Workshop Series was aided by the significant contributions of several partner organizations. Cooperative Extension personnel from New Hampshire, Vermont, and Maine delivered workshops and field days. Cheshire County Conservation District partnered with NOFA NH on soil health workshops while NRCS of Cheshire County provided current research on cover cropping systems for the New Hampshire specialty crop growers. The New Hampshire Herbal Network partnered with NH Grows to offer the Business and Botanicals conference in 2013. Colby Sawyer College partnered with NH Grows to offer a workshop on food safety handling.

Goals and Outcomes Achieved:

The New Hampshire Grows Workshop Series focused on creating learning opportunities for specialty crop producers. These opportunities were most often in the form of farm and/or conference based-workshops and twilight farm tours. However, through the NH Grows Workshop Series NOFA NH was able to develop a website for NOFA NH that allowed for workshop registration, calendar of events, a Farm and Food Map, information on policies and regulations, and a farm employment section. In the fall of 2013, NOFA NH hosted the Organic & Sustainable Farms Weekend. Twenty-five farms hosted visitors, providing tours and demonstrations as well as marketing farm products. Eighteen of the twenty-five farms were specialty crop farms.

Measurable Outcomes

NOFA NH did not track attendance at workshops prior to the implementation of the New Hampshire Grows Workshop Series; therefore, it is not possible to measure the increase in attendance during the workshop series. However, every single one of the 22 workshops delivered through this grant (not including the Organic and Sustainable Farm Weekend) had at least 8 farmers in attendance. Overall, the New Hampshire Grows Series had 403 specialty crop producers register for workshops – many attending for multiple workshops throughout the series.

Beneficiaries:

The primary beneficiaries of the New Hampshire Grows Workshop Series include beginning and advanced growers, farm laborers, and apprentices as well as persons considering entering specialty crop production. Secondary beneficiaries include customers who have increased access to high-quality specialty crops.

As stated above, the New Hampshire Grows Workshop Series had 403 registrants in attendance throughout the workshop series, and over 3,000 views to the NOFA NH website. Twenty-five farms participated in the Organic and Sustainable Farm Weekend which gained access to new customers through farm tours, demonstrations, and marketing.

Lessons Learned:

NOFA NH has learned a great deal through the implementation of the New Hampshire Grows Workshop Series. The original grant was written by a person who was not involved with NOFA NH once the grant was awarded and at a time when NOFA-NH was still in the early part of the organizational learning stages about how to manage grants. In fact, NOFA NH did not even learn the grant had been awarded until over a year had passed.

Despite the late start to the project, the New Hampshire Grows Workshop Series allowed NOFA NH to understand and meet some of the unique needs of specialty crop producers at a time when NOFA NH had become known more for its support to consumers and gardeners than for its support of farmers and at a time when specialty crop producers may have been at increased need due to New Hampshire's expanding agricultural scene.

Through this series, NOFA NH learned more about how to balance the needs of specialty crop growers – a group targeted by NOFA-NH for more services - with the needs of its traditional membership base – consumers and gardeners. It was with the need to balance these often separate groups in mind that the Farmer Intensive Day was created at the annual Winter Conference. Providing a separate format for farmers to learn allowed the Winter Conference to satisfy its attendees with the same high quality workshops for which NOFA NH had become known.

The original author of the grant had anticipated a measurable increase in sales for all New Hampshire specialty crop producers because of this workshop series; however, no initial data was ever collected as a basis for comparison. Nor was it determined in the grant how this data would be collected. In the future, these matrices should be developed in cooperation with the granting agency prior to submitting a grant.

NOFA NH has since developed a more stringent model for determining what grants can be submitted under its name and a process for doing so, and carefully tracks the success of each proposal.

The Workshop Series was very favorably viewed by Specialty Crop producers in general. However, NOFA NH struggled at times to gain the attention of specialty crop growers, and promotion of workshops could have been better planned to ensure greater attendance. While the website greatly streamlined online registration, NOFA NH needed a better system for handling over the phone or walk-in registrants.

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Project 7**Project Title: Multi-Faceted Education Program for New Hampshire Bedding Plant Growers**

Applicant: University of New Hampshire Cooperative Extension, Dr. Brian A. Krug, Assistant Extension Professor/Specialist; Greenhouse and Floriculture crops, Project Leader

Final Report previously submitted

Project Summary:

Throughout New Hampshire, New England and the US there are many opportunities for greenhouse growers to attend educational seminars and workshops each year. The format of these workshops and seminars are either focused on a particular topic and are full day, or twilight meetings that cover several topics in a short amount of time. This paradigm is problematic for growers; stepping away from their businesses for one or several days to attend a focused program is hard if not impossible or attending twilight meetings does not allow for in-depth understanding of topics. In addition, programs are usually offered during the “off-season” which does not allow for immediate application of the information acquired; growers forget about the new information by the time the growing season begins. Also, whether programs are a full day or twilight meetings, the integration of successive programs allowing growers to incorporate of all material together into one production scheme is rarely accomplished. Finally, scheduling speakers to all be available on one given day can be difficult and can limit the ability of having the desired expert as the instructor.

The goal of the New Hampshire Bedding Plant Breakfast Series (NHBPBS) is to confront these issues and offer a series of 2-hour lessons over the course of the bedding plant production season (January – June); the lessons will occur every 2-3 weeks. Each lesson will be focused on one topic, timed appropriately for growers in relation to the production cycle (ie. physical properties of growing substrate and substrate selection in January, fertility management in March, disease and insect control in retail spaces in April, and marketing strategies in June).

Organic production is growing in vegetable production and gaining popularity in the bedding plant industry. There is ample information for growers who produce their crops in field settings; however, there are few organic guidelines for growers who produce their crops in a greenhouse in flats or pots. Nutrient, insect and disease management in pot culture can vary greatly from in-ground culture. Organic matter in the growing substrate provides much of the nutrient needs of a plant in an organic system; in an in-ground system the plant is only limited by its ability to distribute roots throughout the surrounding substrate. Whereas pot culture restricts the amount

of growing substrate that the plant can exploit to the amount of substrate in the growing container (usually a volume of 0.5 liters or less). Also, most pot culture is conducted in a greenhouse where the environment is often more conducive for insect and disease development. Therefore insect and disease pressure also require different approaches to management in pot culture.

The goal of the Organic Greenhouse Twilight Series is to expose growers to methods of organic production that have been scientifically proven to be successful as well as those that have been proven by growers themselves. Three evening twilight meetings will be held in a central New Hampshire location over the course of three weeks (one per week) in the month of November. Each meeting will have a focused topic, substrates/plant nutrition, insect management, or disease management.

The cost of heating a greenhouse during the spring months can be, and often is, the largest expense bedding plant producers in New Hampshire encounter. Conducting an energy audit on existing greenhouse structures can identify inefficiencies in the performance of a structure. In the past two years the University of New Hampshire Cooperative Extension has offered several lecture-based programs to educate growers how to be more energy efficient and how to conduct energy audits. Although many broad concepts can be applied to operations across the industry, each greenhouse is unique and often requires practices or concepts to be customized

The final goal of this proposed project is to provide energy audits to 10 New Hampshire bedding plant growers. Brian Krug, UNH Cooperative Extension Greenhouse Specialist, and the respective UNH Cooperative Extension County Educator will visit growers individually and evaluate the efficiency of their greenhouse structures with them. Each grower will be given a customized report that will identify actions the grower can take to increase the energy efficiency of each structure.

Project Approach:

Organic Greenhouse Twilight Meetings

In the Fall of 2010 the Organic Greenhouse Twilight Series was offered. The series included topics on organic media and nutrition, organic greenhouse standards, using pH and EC meters, and nutrient deficiencies (November 8th); identifying insects on sticky cards, identifying greenhouse insects, and management options for insects and mites (Nov 15th); and Diagnosis of diseases and disorders, management options for plant diseases, organic pesticides for disease management, and how to submit samples for diagnosis (Nov 22nd). Attendance at the Nov, 8th, 15th, and 22nd Twilight Meetings were 56, 56, and 37 growers, respectively. Those attending the Organic Greenhouse Twilight meetings were asked a series of questions to assess their knowledge of material before and after the meetings. The rating scale was 1-5, 1 having no knowledge and 5 being very knowledgeable. Table 2. summarizes the before and after assessments.

Bedding Plant Breakfast Series

Throughout the spring of 2011 The Bedding Plant Breakfast Series offered 7 focused workshops to educate growers. Topics, locations, and speakers are summarized in Table 2. There were a total of 91 growers who attended the Bedding Plant Breakfast series over the course of the

spring. Those attending the Bedding Plant Breakfast Series meetings were asked a series of questions to assess their knowledge of material before and after the meetings. The rating scale was 1-5, 1 having no knowledge and 5 being very knowledgeable. Table 3. summarizes the before and after assessments.

Table 1.

Date	Topic	Location	Speaker
Feb 22 (Rescheduled from Feb 2)	Substrates	Wentworth Greenhouses	Jamie Gibson (Fafard)
Feb 16	Fertility	Frizzhome Gardens	Cari Peters (JR Peters)
March 2	Temperature and Light	Pleasant View Gardens	Roberto Lopez (Purdue Univ.)
March 16	Height Control	D.S. Cole Growers	Brian Whipker (N. Carolina St. Univ.)
March 30	Diseases	Chakarian Farm Greenhouses	Cheryl Smith (UNH)
April 13	Insects	Stonewall Farms	Alan Eaton (UNH)
June 8	Marketing	Rolling Green Nursery	Rick and Beth Simpson, Kim Chetsas

Greenhouse Energy Audits

During the months of August and September nine greenhouse energy audits were conducted in 7 of the 10 counties in New Hampshire. John Bartok, Agricultural Engineer – University of Connecticut, was hired to train four University of New Hampshire Cooperative Extension personnel to conduct walk-through greenhouse energy audits. The individuals trained include Brian Krug, Greenhouse/Floriculture Specialist, Nada Haddad, Rockingham County Educator, Margaret Hagen, Hillsborough County Educator, and Russ Norton, Carroll County Educator. Bartok assisted these individuals on four audits, giving guidance and instruction. Greenhouses audited were evaluated for heating and energy efficiency. Growers/owners were present during the audits and energy saving techniques specific to their operations were developed and explained. In addition each participant was given a written report that summarized the energy audit and suggestions to improve efficiencies. Growers were also advised on potential grants and cost sharing programs to assist them with costs of any improvements. An example of one of the energy audits is attached. Follow-up visits will be made to each of these operations to determine what suggestions were implemented and to estimate the impact to energy conservation.

Goals and Outcome Achieved:

Table 2.

	Before	After	# of Responses
Organic Media and Nutrition	2.7	3.9	54
Organic Greenhouse Standards	2.6	3.9	51

Using pH and EC Meters	2.6	3.1	44
Nutrient Deficiencies	2.4	3.7	55
Identifying Insects on Sticky Cards	2.4	4.1	40
Identifying Greenhouse Insects	2.5	4.1	40
Management Options for Insects and Mites	2.5	4.0	40
Diagnosis of Diseases and Disorders	2.7	3.9	36
Management Options for Plant Diseases	2.8	4.1	36
Organic Pesticides for Disease Management	2.7	3.9	35
How/Where to Submit Samples of Diagnosis	3.2	4.4	36

Table 3.

	Before	After
Peat Moss, Perlite, & Lime, Oh My (substrates)	3.3	5
N-P-K... Why is it So Complicated (Fertility)	3.7	4.6
Flowers on Time, Every Time (Temp & Light)	3.2	4.6
The Complete PGR Toolbox (Height Control)	3.0	4.6
Diseases Got you Headed fro the Dump Pile? (Diseases)	--	--
Don't Get Carried Away by Insect Pests! (Insects)	2.8	4.5
Marketing	--	--

The following are the Measurable Outcomes set in the original proposal. The comments in italics are the results and comments for each.

-Offer 8 sessions between January and June 2011

Only 7 sessions were conducted, the first was to be conducted during the NH Plant Grower's Association and NH Landscaper's Association Joint Winter Meeting. However this session was not selected by the planning committee to be offered.

-60 participants (20 attending all 8 sessions; 60 unique participants)

Over 100 participants attend the 7 meetings, it was difficult to determine how many were unique participants as there was no registration required for any of the sessions. Attendance was low for the substrates session due to poor weather requiring the session to be re-scheduled.

-20 participants conduct water quality tests

At least 20 water quality tests kits and free analysis certificates were given to participants. We were unable to track how many of the participants used the kits to have their water tested.

-10 participants develop a fertilizer program based on water tests

We will be following up with attendees this spring to determine how water tests may have impacted fertility decisions.

-20 participants learn to use substrate monitoring

Based on survey results, on average, 44 participants increased their knowledge on substrate monitoring using a pH and EC meter in their greenhouses.

-20 participants learn to identify 5 major insect pests

Based on survey results, on average, more than 40 participants increased their knowledge on identifying insect pests.

-20 participants learn correct method for sending samples to UNH Plant Disease Clinic.

Based on survey results, on average, 36 participants increased their knowledge on correctly sampling plants for the UNH Plant Disease Clinic.

-20 participants learn how to calibrate a fertilizer injector

Fertilizer injector calibration was not covered in any of the session; however, an instructional video was created and posted on the internet. Over the past 6 months the video has been viewed over 150 times.

-10 participants learn to manage pests and plant nutrition using organic methods

Based on survey results participants gained knowledge in the management of pests and plant nutrition using organic methods.

-5 participants implement a new practice to better manage pests and plant nutrition using organic methods

Follow surveys need to be conducted to determine implementation of practices.

-10 participants learn how to conduct an energy audit

4 University of New Hampshire Cooperative Extension staff members were trained by John Bartok to conduct energy audits. At least one staff person from each of the 9 greenhouses was present and participated in the audit to better understand the process.

-5 participants make an improvement/change to their greenhouse to save energy

Communication with greenhouses participating in the energy audits showed that 6 out of 9 participants made changes based on the recommendations provided in the fall 2011 reports. Most operations made changes that did not require large capital investments, although one installed a wood pellet furnace and another a wood-fired boiler. Instead of repairing an inefficient greenhouse, one operation is planning to tear it down in spring 2013 and replace it with a new house. All reported sealing gaps around doors, louvers and shutters using weather-stripping, foam or frames designed specifically for the openings. Three greenhouses moved thermostats to crop height, one insulated the hot water pipes and heater, one installed knee walls on all sides, one insulated an endwall, two either installed horizontal air flow fans or changed their configuration to prevent disease problems, one installed new windows in an older house, one installed insulation around a cement foundation, and one installed insulation around the benches. Greenhouses invested anywhere from \$60 to \$5,000 in improvements, and most estimated that they saved at least 10 to 15% in energy costs during the 2012 growing season.

Beneficiaries:

The primary beneficiaries of this project were the bedding plant growers of New Hampshire. Total attendance at the three organic production twilight meetings was 147 people. Ninety-one growers attended the Bedding Plant Breakfast series. Nine greenhouses from across New Hampshire received free greenhouse energy audits. It is difficult to determine any monetary benefits from the twilight meetings and the Bedding Plant Breakfast series, but most of the recipients of the greenhouse energy audits reported saving at least 10-15% in energy costs in the 2012 growing season.

Lessons Learned:

The Bedding Plant Breakfast Series had to be reduced to 7 meeting instead of 8 due to limited time available at the New Hampshire Plant Growers' Association and New Hampshire Landscapers' Association Winter Meeting. One of the sessions had to be postponed due to

weather and rescheduled for later in the same month. We feel that due to the rescheduling there were fewer attendees for that session.

The original intent of the energy audits was to conduct one audit per county. We were unable to conduct audits in Merrimack, Strafford, and Grafton Counties as we were unable to identify bedding plant greenhouse that wanted this service during the period we were conducting the audits. We were able to offer an extra audit in both Hillsborough and Rockingham Counties.

Injector calibration was not demonstrated in-person during any of the programming offered but a video was produced that covers the topic and posted on the UNHCE website.

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Project 8

Project Title: Specialty Tools for Specialty Crops: Hi-Tunnel Emphasis

Applicant: Coös County Conservation District

Final Report previously submitted

Project Summary:

Coös County, NH has seen an increase in farms engaged in vegetable and related horticultural enterprises as documented in the most recent USDA Census of Agriculture (2002 to 2007). Many are small farm operations with limited labor and capital resources. They sell directly to consumers expecting a high quality product.

As New Hampshire's most northern county, Coös, is subject to untimely frosts and a short growing season. Hi-Tunnels and other protective growing structures have been adopted by local farmers to extend their crop season, improve produce quality and therefore increase overall revenue.

In recent years many specialized tools and equipment items have been developed that may improve labor efficiency and increase the productive soil capability of these small farm operations. Although not apparently expensive (several \$100s or less) they do represent a costly outlay of funds for this scale of farm operations. In many cases these growers "need to know it will make them money" before they can afford to purchase them.

We propose to purchase selected tool and equipment items of which an interest has been expressed. They will be trialed on farms and their use later demonstrated at two on-farm

workshops. Following these workshops the equipment will be available on-loan to Coös County farmers and Conservation District Cooperators. This practice will continue as long as they remain serviceable.

As planting is the most demanding time of the growing season the majority of the tool/equipment items will be for soil preparation, cultivation, seeding, transplanting. As the District is also working with UNH Cooperative Extension and USDA/NRCS to promote better soil management (per Cornell University's Soil Health program) this would compliment that activity. Harvesting a premium quality crop for direct market sales at farm stands, markets, CSAs is another challenge for local growers. Therefore we will also purchase tools and equipment to assist farmers in that activity. The same outreach model will be employed. As greens (i.e. Mesclun mixes) are a high value product, somewhat more attention to their cultural requirements, harvest, and cleaning is planned.

Project Approach:

Conduct two on-farm workshops and initiate a lending program for hand tools related to hi-tunnel production.

Summer - Fall 2010 – Met with two (2) well established and respected vegetable farmers, a Mr. Craxton and Mr. Tasey to discuss the type of hand tools they use and what type would help them in their operations. There was also a meeting with field office staff, NRCS, and Cooperative Extension for ideas and their observations. This was done well before the grant application.

December 14, 2010 – Lunch and Learn meeting at Cooperative Extension Field Office. Specialty tools for farmers, especially those with Hi-Tunnels. Approximately 15 people met for a round table discussion.

February 16, 2011 – Final grant approval was received.

March 2011 – Partial funds from Grant arrived.

March 2011 – Orders to Johnny's Seeds, Gempler's, Lehman's, and the Red Pig were placed for an assortment of hand tools. The tools from Johnny's Seeds will be picked up as they are considered to be local because the tools are in Maine. We tried very hard to buy only USA Made tools.

April 23, 2011 – Bert vonDohrmann, Coos County Conservation District chairman, and Mike Harrington of the Natural Resources Conservation Service and a volunteer to the District. These cooperating partners traveled to Maine to pick up the hand tool order.

May 5, 2011 – Hoop Bender Hands on Meeting and Peppers – Lunch and Learn. What else can be grown in Hi and Low Tunnels “Peppers, of Course”, Heather Bryant Grafton County Extension Educator came to talk about her sweet pepper trials. There was also the opportunity to use the ½” diameter hoop bender. All that was needed was to bring their own 10 foot section of

conduit. Extension and District people were present along with approximately 20 others who want to see and use the hoop bender.

May 18 and June 8, 2011 – Tool Assembly and Photo Inventory - Cooperative partners from the Conservation District, NRCS, Forests and Lands and finally cooperative Extension gathered twice to help assemble and photo Inventory all of the hand tools purchased to date. Note on this date various tools were lent to hosting farms for trials prior to the scheduled on farm demonstrations.

June 21, 2011 – An on Farm Workshop and demonstration was held at the Tassey Farm in Shelburne. Over thirty (30) interested individuals from three (3) counties and two (2) states attended. Also two representatives and a photographer from Johnny's Seeds attended. There were demonstrations of various tools, a question and answer period and an opportunity for participants to try out the tools on a plot prepared especially for the workshop. Planting and cultivation was the focus.

July 13, 2011 – An on Farm Workshop at the Organic Craxton Vegetable and Flower Farm – Thirty Two + (32+) people attended this workshop. The primary focus was on soil preparation, utilizing, demonstrating and trying out hand tools especially focusing on soil compaction. There was very good press coverage for this workshop, see attachment.

September 22, 2011 – A Hi-Tunnel Workshop was held at White Mountain Regional High School. Fifteen people interested in tunnels both high and low were present. The tool lending programs was briefly discussed.

During and after these two (2) workshops there was a very good exchange of dialogue especially when workshop participants were testing out the various tools that were available. Nearly all expressed interest in the wide variety of tools, and most felt that these tools would help save them time and better prepare the soils for planting in their operations. Many expressed an appreciation for the ergonomic design of many of the hand tools thus preventing bodily strain and injuries.

During and after the pipe bending demonstration we heard comments from electricians and plumbers on ways to modify or produce their own pipe-bending devise. If they hadn't been able to see how it was done and tried the devise they wouldn't have been able to go through the modifying thought process.

Many sizes of Broadforks were available for trial. Many were suitable, some were also too huge and unyielding for the majority of people to be able to use.

If we hadn't had these workshops people wouldn't have known whether or not these tools could work for them without purchasing them. Definitely saved money in some instances and also introduced people to some really helpful tools that they wouldn't have ever tried because they would have had to purchase them in order to be able to try them out in their operations

Fall 2011 - The bender was loaned out to the Grafton County Agricultural Agent to bend pipe for low tunnels. She is currently using the low tunnels for some winter growing demonstration trials.

Winter 2012 – More tools will purchased during the winter and made available beginning in the spring to help tunnel owners determine suitability for their operations. Tools are only loaned out for a maximum of one (1) week.

Late Winter 2012 – February 7, 2012 a Seed/Transplant Workshop was held. Many of the tools available were demonstrated in an indoor setting due to the time of year. Approximately 35 people attended. Three different types of Soil Block Markers were available along with potting soil mixes, soil-less mixes, seeds, and the implement trial inventory catalogue. Participants were encouraged to review the inventory catalogue, make a list of the implements that they wished to try so that at the beginning of the soil preparation season they would know what they in fact wished to use on trial.



High tunnel soil blocking workshop.

Winter-Early Spring 2012 – April 20, 2012 “Looks Like an Early Planting Season, are You Good to Go?”

This on- farm workshop presented the ins and outs of growing in low tunnel and raised beds. It presented the how-to, the tools to make the job easier and the proven varieties of implements that work well. There was an opportunity to practice pipe bending skills for low and high tunnels. There was a long discussion regarding tunnel within a tunnel for season extensions.

July 2012 – Road Trip. There was a road trip to Johnny’s Seeds in Winslow Maine to view and interact with employees to learn more about organic seed development, production, sale, and distribution. Also to learn whether or not there was any further refinement on some of the tools we already have purchased through the grant.

With the extension of the growing seasons there are still growers participating in Winter Farmers Markets throughout Coos County, even in the far reaches of northern New Hampshire.

All of the growers to date, that have borrowed the grant tools on a trial basis, have been extremely supportive of the program. The program has allowed them to try tools that normally would have been cost prohibitive. Things that look good in a catalogue do not necessarily work for every person or every situation.

Goals and Outcomes Achieved:

Tools were researched, purchased, assembled, demonstrated, workshops were held throughout a 2 year period, tools were loaned out on a trial basis, comment sheet developed, field trip to Johnny's Seeds with private tour done, yearly report and final report done.

Eight workshops were presented in the past two years with the smallest exposure being 16 or 17 with the largest being 50+. Word of mouth about the tool trials was an unexpected benefit. (See photos attached)



Hand tool workshop.

More than 100 people were introduced to these tools during tour workshops in the last 2 years. In the future more workshops will be held. It is anticipated as more and more people are introduced to low and high tunnels there will be an ever increasing audience to expose to the tools for a trial basis. Backyard and community gardens with indoor winter farmers markets are catching on in a big way within Coos County. Evaluations were not distributed to participants at workshops. We have been unable to obtain information of value at meetings such as this, particularly when name and contact information is requested.

We did request evaluations from those who used the tools on a trial basis and of all of the tools that went out on a trial basis there was only 1 person who did not like the tool that was borrowed.

The other tools that went out on a trial basis were deemed to be worthy of purchase and in fact were purchased. Here are some of the individual tool evaluation responses:

- With regard to the hitch mount pipe bender. This person found that the process is much easier using the hitch mount pipe bender rather than the table mount pipe bender. For this person neither time nor labor was saved as they needed more practice bending pipes.
- 6 Row Planter, used for planting greens for salads, beets, and carrots. This requires reading the manual, patience in the adjustment process. It needs to be properly aligned, be used by a medium to tall stature person due to handle length, requires dry soil. A single person with the right adjustment can plant six (6) rows in 2 minutes. This tool saves a lot of time and back breaking labor. Found this an excellent tool to use but it is very expensive.
- Soil Block Makers. Block makers were labor intensive as the moisture level in the soil had to be just perfect. This can be accomplished with lots and lots of practice. Students lost interest real fast and thought that peat pots were the way to go. Soil block makers would be useful if used by a home owner or one person in an operation but not by many. The soil block maker forms are pricey.
- Large Broadfork almost impossible to pick up let alone use. Not appropriate for a small woman.
- Seedbed preparation rake – wonderful, very useful, easy to handle, reasonably priced, intend to purchase one.

It is our intent that even though the players may change, the program will continue even though the grant will have been closed out.

Tunnels and Specialty Crops will and are becoming more valued by individuals and those wishing to corner the organic wholesome non truck-farm produce areas. Even in the far Northern climes such as Coos County, the growing season can well be extended-- perhaps even into early February. This is the area the District especially will be concentrating on with workshops, news articles, tours of existing established tunnel sites, with specialty crops for the continual topic introduction to newly interested parties.

This will be an on-going continual project for many years regardless of the players, District or otherwise.

Beneficiaries:

The groups that benefited from this project are and were the agriculture students from the Horticultural classes at White Mountains Regional High School, individual owners of high tunnels, owners of low tunnels.

Beginning in 2013 the North Country Charter Academy of Lancaster will be borrowing tools to allow students time away from classroom to work in two (2) gardens that will benefit our local

food pantries and 1 local soup kitchen. The produce going to these (2) two groups will benefit many of those that come for free meals or to receive food on a weekly or semi-weekly basis.

The first workshop of the 2013 season is February 23rd titled “Making the Most of Your High Tunnel”. Pesticide credits are available with this workshop for those in need. This workshop was not conducted with SCBG funding. There was a small component of the session that had information about the tool program. We intend to keep telling growers about the program and the tools available.

Lessons Learned:

The very first lesson we learned is that even though literature is handed out along with the tool, most people don't read before using a product. The second thing we learned is that people, even though they have left a deposit for the replacement value of the tool, don't feel obligated, for the most part, to return the tool on the agreed upon date. The third thing we learned is with regard to our six row seeder. It has a long handle and six adjustments, one for every row. Patience is required, perhaps a small amount of mechanical ability. The person operating the 6 row seeder should also be at least 5'4" in order to push the seeder. Height of a person for sure was never thought of. But on the up side we had several tall people borrow the seeder who felt it worked perfectly and have since purchased one.

The six row seeder, by the way was, what we considered to be a very expensive hand tool.

In a nutshell people don't read, people don't return things in a timely fashion and if you are short the six row seeder won't work too well for you.

On the positive side numerous people that borrowed tools on a trial basis were extremely glad of the opportunity to try the tools and in fact did purchase the tool.

The photo catalogue inventory of tools available needs to be arranged numerically with page numbers and cross referenced with an index.

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Project 9

Project Title: Continuation of the Buy Local Agriculture Campaign partnership with NH Division of Travel & Tourism Development

Applicant: NH Dept. of Agriculture, Markets & Food, Gail McWilliam Jellie, Project Leader

Final Report

Project Summary:

There are three key issues affecting the New Hampshire agricultural industry and its ability to market itself and its products: 1) fewer people have a connection to agriculture and an understanding of where food and other products come from; 2) consumers indicate they want to buy local products, but have difficulty identifying where local goods can be purchased; and 3) there is tremendous competition to local products from other parts of the USA and the world, which compounds the confusion for the consumer over what is truly local, and negatively impacts our local economies of small business who must compete with these regional US and global businesses.

Studies have shown a desire on the part of consumers to buy local products and a positive impact on the local economy when the purchase of local products is encouraged and enabled. (NH Dept. of Agriculture, Markets & Food, 2002; University of New Hampshire Cooperative Extension, 2003; University of New Hampshire 2005).

A study conducted by the University of New Hampshire in 2007 found that 90% of New Hampshire adults surveyed said they would be more likely to purchase NH farm and food products if they were labeled as such.

The New Hampshire Dept. of Agriculture, Markets & Food received funding under the 2011 Special Crop Block Grant Program in October 2011 to continue a NH Buy Local New Hampshire Agriculture Program, first established in 2007. The Dept. of Agriculture continues a partnership with the NH Division of Travel & Tourism Development to conduct this program which has contributed matching cash and in-kind funding. This has allowed non-specialty crop commodities to be included in the campaign.

The focus of the entire advertising campaign is estimated at 80-85% specialty crops and 15-20% other non-specialty crop commodities. The visual focus of the television and related internet advertising is primarily specialty crops available through farm stands, pick your own and farmers' markets. To cover the non-specialty crop inclusion in the campaign (cheese in Wine & Cheese brochure and other non-specialty crop commodities that benefit in general from the Buy Local Agriculture theme), the NH Dept. of Agriculture, Markets & Food and the Division of Travel & Tourism Development together contributed cash and in-kind spending at a level of about 37% of the total spending, which more than covers the non-specialty crop commodities.

Advertising was targeted to buying decision makers; those who made the decisions about household purchases regarding food and other home products (plants, Christmas Trees, etc.). Choices about placement of advertising (networks, specific programming, timeframes, etc.) were made based on viewer/user demographic information provided by the media and our advertising partners.

Project Approach:

Activities performed since December 31, 2012 included television advertising, brochure development and distribution, internet advertising. All activities were conducted in partnership with the NH Division of Travel & Tourism Development and their marketing contractor. The program featured a central logo which was originally this image:



Part of the activities conducted this year, included an update to the logo to give it a fresher, more modern and diverse look. The re-design was accomplished by September 2013 and the logo will appear in all advertising moving forward (only 50% of the redesign cost came from SCBG funds):



Goals and Outcomes Achieved:

The overall goal of the **Continuation of the Buy Local Agriculture Campaign** partnership with NH Division of Travel & Tourism Development is to continue to build awareness of NH agriculture and agricultural products and to increase sales of these products.

This was accomplished with targeted television and internet advertising and brochure development and distribution.

Television advertising was placed on New Hampshire station, WMUR-TV from August – October, 2013 and for the same timeframe on selected Comcast stations. Companion ads also appeared on the networks' websites. The ads drove visitors to the www.agriculture.nh.gov website.

Additional internet advertising was conducted on Face Book. The ads featured a timely event or seasonal product and encouraged viewers to “like” the NHDAMF Face Book page. We also hosted an agricultural photo contest on Face Book from September-December 2013 which encouraged visits to our Face Book page and interaction such as submission of photos and voting for the favorite photo. (the photo contest was paid for with non-Specialty Crop Block Grant funds). Face Book follower numbers increased from 9580- 16,000 January- December 2013.

A web page on the NH Tourism website, [visitnh.gov](http://www.visitnh.gov), was launched in June of 2013 which featured “Agritourism” This site highlighted many of our existing publications and companion websites that promoted Specialty crops. From June – December 2013 the site received 3268 page views for an average of 544 views per month. The site was paid for in part and maintained with NH Tourism match funds to cover non-specialty crop participation.
<http://www.visitnh.gov/what-to-do/agritourism.aspx>

Measurable Outcomes Achieved:

- **10 percent increase in NHDAMF website visits as a result of the consumer campaign which will drive consumers to specific website(s) for information (baseline of 60,000 per year at time of application).** Our website visits have remained fairly constant. From January-December 2012 the website showed 200,420 page views. From January-December 2013 there were 201,477 page views. We can now also measure unique visitors and from January –December 2013 we had 64,771 for the year. Measured via AWStats (changed from Web Trends).
- **Establishment of 2 additional farmers’ markets (currently 80 markets).** During the 2013 summer market season there were 71 markets that officially signed on to our market directory. We know there were at least eight additional markets that never submitted a registration form to the NH Dept. of Agriculture, Markets & Food. Summer market numbers have remained somewhat static during the last couple of years. It is not unusual for market coordinators, who are often market vendors who volunteer to oversee market organization, to change from one year to the next and new contact information is not passed on to us, making it difficult to track down market activity.

The winter markets continue to be the venue that is really exciting consumers. There were 30 “winter” markets operating around the state from January to May, 2013, an increase of just under 10% from 2012. There are 27 winter markets signed on to our directory for the same period in 2014. This slight decline in winter market numbers represents typical fluctuation due to changes in location availability, volunteer managers, etc. The winter markets are very popular with shoppers and we continue to encourage their operation establishment and promote them in an online directory of winter markets.
<http://www.agriculture.nh.gov/publications-forms/documents/winter-farmers-market.pdf>

- **10 percent increase in farm listings on the NH Virtual Farmers’ Market website (90 farms listed at time of application).** There are currently 145 farmers listed on the NH Virtual Farms’ Market website, a 38% increase since this project began. The software for this site is dated and discussions have begun regarding updating the site to improve function and navigation. The scope of this update project is outside of the activities conducted with the SCBG funding
- **10 percent increase in buyer visits to the NH Virtual Farmers Marketplace website (49,000 visits From October 2008- August 2009)**The visits to the NH Virtual Farmers Market website from March 2012 through December of 2012 were 79,434. From March

2012 through February 2013, visits totaled 94,029. The site is inactive while a renovation is planned.

- **New publications will be distributed to 20,000 consumers.** The “Experience Rural New Hampshire” brochure was reprinted for 2013. This is a listing of farm and rural events and activities, featuring gardens, fairs, seasonal festivals, etc. About 50% of the brochure is specialty crop related and covered by the grant funds. The rest is covered by partner match. 20,000 brochures were printed and all were distributed by September of 2013.

See attached examples of brochures and advertising previously submitted (2011 2nd annual report)

Beneficiaries:

The continuation of this effort will result in greater demand and increased sales of products at all venues, creating a positive environment for business development and expansion and generating a positive economic impact.

Consumers will benefit from new understanding of local agriculture and local products and the industry’s impact on New Hampshire, socially, physically and economically. Consumers will benefit from the ability to identify local products to help them make choices and purchases. Dollars spent locally, circulate in the local economy, benefiting the local community as a whole.

People/operations impacted:

- 85 farmers markets with approximately 500 total vendors (NH Farmers’ Market Association and NH Dept. of Agriculture, Markets & Food, 2010)
- 215 commercial apple growers marketing through harvest your own, farm stand operations and some farmers’ markets (US Census of Agriculture, 2007)
- Over 900 vegetable and berry growers marketing through farm stands, harvest your own and farmers markets (US Census of Agriculture, 2007)
- 900 greenhouse, nursery and related businesses marketing through on-site retail outlets, farm stands and farmers’ markets (New England Nursery Growers Association survey, 2005)
- 475 commercial maple producers (US Census of Agriculture, 2007)
- 184 registered beekeepers with colonies of honeybees (US Census of Agriculture, 2007)
- 235 Christmas Tree growers (US Census of Agriculture, 2007)
- 28 NH wineries (NH Winery Association, 2010)

Lessons Learned:

New Hampshire’s Agricultural products, including specialty crops, are desired by consumers. Our project has helped shoppers identify NH products and studies have shown consumers will select NH products when they are known to them. This project increases public awareness of the availability of local agricultural products and will create new opportunities and new markets for NH agricultural businesses.

The Buy Local New Hampshire Agriculture Campaign continues to be successful on multiple levels. First it has allowed NHDAMF to establish a unique partnership with New Hampshire's state tourism office which has continued beyond the scope of this individual project to the benefit of both agencies. Second, the marketing activities conducted in this campaign seem to have been successful in building awareness and demand for NH agricultural products. The interest in local food and agricultural products is booming. Farmers' market numbers have increased by 15% through the establishment of winter farmers' markets within the three year term of the grant. These markets are very popular and draw large crowds of shoppers on a regular basis.

We believe this project has been a major factor in building awareness of our local agricultural industry and encouraging consumers to buy local products. Our project will continue with additional SCBG funds and we will continue to measure our impact.

The interest in New Hampshire food and agriculture is certainly displayed via Face Book and other internet venues. Our ads have a high "click-through" rate, where viewers actually click on the ad to see more information about New Hampshire Agriculture. This further reinforces that our efforts are well-placed and effective. Face Book advertising has become an important additional component to the marketing campaign. Likes/followers numbers have increased greatly since the advertising effort began in September 2011 with approximately 12000 followers to over 16,200 today. We are also using Twitter in the communications mix and post to both Face Book and Twitter in tandem, to reach selected audiences. Twitter follower numbers have also increased. Social media will continue to be a major avenue for outreach to both the consumer and the producer and will continue to be a component of the Buy Local New Hampshire Agriculture Campaign moving forward, particularly and we will also explore other social media options.

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Project 10

Multi-State Project

Project Title: Increasing the Competitiveness of New England Specialty Crops Through the Harvest New England Association.

Applicant: Harvest New England Association, 165 Capitol Ave, Hartford, CT
www.harvestnewengland.org
Coordinating State: CT Department of Agriculture

Contact: Jaime Smith,
Final Report

Project Summary:

New Englanders seldom think of their region as being plentiful and offering a diverse selection of agricultural specialty crops. Through increased use of the Harvest New England (HNE) logo by producers, wholesalers, and grocery stores, residents of New England will have an increased awareness and greater knowledge of the availability of regional produce.

As a result of activities conducted by HNE the following was accomplished:

1. Increased marketing of New England specialty crops.
2. Increased awareness of the HNE logo and New England specialty crops.

This was accomplished by:

1. Hosting two New England-wide marketing conferences
2. Redesigning the HNE website into a more user-friendly, information-filled website.
3. Developing the HNE logo brand guidelines to inform users how to properly use the logo to keep the standards of the logo consistent
4. Producing banners to line the Avenue of States on the Eastern States Fairgrounds during the annual Big E and year round.

The HNE logo was promoted to potential users, which include all specialty crop producers and distributors, and consumers at a variety of venues and opportunities. These venues will included the 2011 and 2013 Harvest New England Agricultural Marketing Conference and Trade Show, a complete redesign of the Harvest New England website, developing specification sheets for using the HNE logo, and installing light post banners on the Avenue of States during the Big E.

Project Approach:

- 2011 and 2013 Harvest New England Agricultural Marketing Conference and Trade Show.
 - In 2011, 392 specialty crop producers and 483 in 2013 were educated on how use the HNE logo and better market their agricultural specialty crop products to New England consumers. In 2011, 54 scholarships were awarded to specialty crop producers from around New England who expressed hardships and could not have attended the conference otherwise.
 - The conference received great responses and feedback. The conference evaluation in 2013 asked attendees that participated in both 2011 and 2013 conferences if they had an increase in sales of specialty crops as a result of marketing techniques learned at the conference. 78% of respondents said they did increase sales of specialty crops thereby solely enhancing the competitiveness of specialty crops in New England.
- Harvest New England website.
 - The website was made more user-friendly for both for the consumers as well as producer, wholesalers, etc. The logo can now be easily downloaded by specialty crop producers, wholesalers, and grocery stores. On the homepage, an overview of the program and drop down menus leading both consumers and producers to

information has been added. New “Consumer Pages” providing information on locating New England specialty crop products, seasonality guide, and links to pertinent information such as the New England departments of agriculture websites have been added.

- A “Producers Page” was also added and includes information on using the Harvest New England logo, logo brand manual, links to other webpages including the New England departments of agriculture websites, extension, among others. This is also the area where HNE can post timely information for the various specialty crop industries.
- An events page was established. This is where the Harvest New England biennial conference can be highlighted along with any other relevant events.
- Spec sheets for the HNE logo.
 - The original specification ‘spec’ sheets for the HNE logo has been expanded to a more comprehensive logo brand manual. The manual outlines not only specifics of colors and logo graphic design components, but how the logo should be used on promotion materials, in sponsorship opportunities, electronically, etc. This more detailed manual is available for download prior to and after someone requests the download of the HNE logo. This manual will encourage a consistent use of the logo by specialty crop producers, wholesalers, and grocery stores.
- 28 light post banners on the Avenue of States at the Eastern States Exposition during the Big E were installed in 2011. They remained up for the 2012 fair and are anticipated to be up for the 2013 fair as well.
 - This increased the visibility of the logo by 1,201,428 New England consumers in 2011; 1,365,896 in 2012; and 1,481,917 in 2013 during the height of the harvest season in the region. Attendance in 2013 was reported to be the highest ever since the exposition started in 1917.

HNE ensured these funds solely enhanced the competitiveness of New England specialty crops through the following procedures:

- *2011 and 2013 HNE Conference:* Only specialty crop producers were given access to the HNE logo and only speakers pertaining to specialty crops received honorarium and other associated fees from these funds. Only specialty crop producers were awarded scholarships which was determined by an application process. Additional, non-SCBG funds were available to cover any expenses where non-specialty crop producers benefited or had the potential to benefit.
- *Harvest New England website update:* A disclaimer on the website specifying only specialty crop producers can utilize the HNE logo when marketing their product(s) regionally. Prior to downloading the HNE logo, producers are required to fill out an online form asking them their basic contact info and to list the general products for which the HNE logo will be used on.
- *Spec sheets for HNE logo:* A disclaimer prior to downloading the manual reminds producers that only specialty crop producers can utilize the HNE logo when marketing their product(s) regionally.

Goals and Outcomes Achieved:

GOAL 1	To educate producers on how to use the HNE logo and better market their agricultural specialty crop products through the 2011 and 2013 Harvest New England Agricultural Marketing Conference and Trade Show.
Performance measure:	Specific questions on the evaluation form asked if specialty crop producers were better aware of how to use the HNE logo and market their specialty crop products as a result of attending the conference.
Benchmark:	Approximately 550 of the 800 attendees at the 2009 conference were specialty crop producers.
Summary of activities	A committee of representatives from around New England, in addition to all of the HNE board members, participated in brainstorming, planning, promoting, and executing the conference.
Original target:	At least 550 specialty crop producers will attend the conference in 2011 and 2013. A minimum of 10 scholarships will be awarded to specialty crop producers at the 2011 conference.
Actual target achieved:	In 2011, 392 specialty crop producers and 483 in 2013 attended the conference. 875 specialty crop producers in the end benefited from attending the HNE Conference. A total of 54 scholarships were awarded to specialty crop producers over the two years. At the 2013 conference 78% of respondents said they had an increase in sales as a result of marketing techniques learned at the 2011 and 2013 conference.

GOAL 2	To make the HNE website more user friendly and have a place where the logo can easily be downloaded by specialty crop producers as a result of updating and redesigning the site.
Performance Measure:	The number of logo downloads from the redesigned HNE website.
Benchmark:	There is no benchmark to compare to at this time.
Summary of activities:	A subcommittee of the HNE board of directors solicited three website firms and selected the most appropriate bidder. Website redesign and content was discussed and developed by the subcommittee and a firm was hired.
Original target:	A total of 50 downloads of the HNE logo per year will happen from the website.
Actual target achieved:	The information is still being collected at this time. However, it doesn't appear we'll meet the target of 50 downloads per year.

GOAL 3	To develop a specifications sheet which will give users guidelines on how to properly use the HNE logo.
Performance Measure:	The number of requests or downloads of the spec sheet from the HNE website.
Benchmark:	There is no benchmark to compare to at this time.

Summary of activities:	A subcommittee of the HNE board of directors updated the existing specifications sheets to a more comprehensive 15 page brand manual for the logo.
Original target:	A total of 50 downloads or requests of the spec sheet for the HNE logo per year.
Actual target achieved:	The information is still being collected at this time. However, it doesn't appear we'll meet the target of 50 downloads per year.

GOAL 4	To increase visibility of the logo to New England consumers during the height of the harvest season in New England as a result of producing light post banners to be on display during the Eastern States Exposition's, Big E.
Performance measure:	The number of attendees during the Big E.
Benchmark:	In 2009, 1.26 million people attended the Big E.
Summary of activities:	A New Hampshire company was hired to design and print the light post banners. Eastern States Exposition staff installed the banners prior to the 2011 Big E.
Original target:	To have at least five, up to 12, light posts banners developed with the HNE logo, promoting the purchase of specialty crops.
Actual target achieved:	28 light post banners were installed for the 2011 Big E. They were also on display for the 2012 and 2013 Big E. This allowed a total of 4,049,241 people to view the banners over the three years. The intension is for them to remain on the light banners for an undetermined amount of time.

The 2011 New England Agricultural Statistics (most recent available) reported that specialty crop sales increased by 97% since 2009. While this cannot be attributed solely to this project, it can be said this project is a contributing factor.

Beneficiaries:

Specialty crop producers throughout New England had and still have the opportunity to benefit from using the logo to promote their New England Grown products. A total of 875 specialty crop producers benefited from attending the HNE Conference in 2011 and 2013.

Over 4 million people were exposed to the HNE logo at the 2011, 2012, and 2013 Big E combined. This raised awareness of the logo and availability of New England grown specialty crops.

Lessoned Learned:

- 2011 and 2013 Harvest New England Conference:
 - Conference planning and execution went quite smoothly both years with no serious problems or delays occurring.
- Harvest New England Website:
 - The HNE website has been completed. The project was more substantial than

originally anticipated and the project timeline was drastically off from the original project narrative submission. The website has been live since July 16, 2013.

- Specification Sheets for the HNE Logo:
 - The 'spec' sheet project was also seriously underestimated however turned out to be more economical to produce a 17 page brand guidelines than just a one page spec sheet. The brand manual is available on HNE's website.
- Light Post Banners at the Big E
 - This project was completed without and problems or delays.

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Additional Information

[2011 Harvest New England Agricultural Marketing Conference and Trade Show](#)
[2013 Harvest New England Agricultural Marketing Conference and Trade Show](#)

Harvest New England Website: www.harvestnewengland.org

Harvest New England Brand Manual: <http://www.harvestnewengland.org/hne-logo/>

Light post banners on the Avenue of States:

