

## Engaged Scholars Academy – Final Project Information Report

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### Project Title

Expanding Winter Availability of Locally-Grown Vegetables in New England

### Project Description

This project is a partnership between two non-profit organizations, researchers at two land-grant Universities, and farmers in NH, MA and neighboring states. Our overall goal is to increase the available supply of locally grown vegetables during the winter months (November-April). A large part of our efforts need to focus on building capacity of farmers to meet this market demand. Our project includes several components: 1) developing & expanding marketing opportunities, 2) extending and making more available existing knowledge about low-cost strategies to store vegetable crops that are suited to that practice, 3) building new knowledge about winter and very early spring growing and harvesting techniques, and 4) expanding farmer networks to permit more information exchange.

### Background Information/Statement of the Issues/Problem

Winter farmers' markets have become increasingly popular in recent years. In the 2009-2010 season, thirteen markets were organized in the Seacoast NH area, and thousands of customers flocked to the markets every other week. In a planning meeting of market vendors (March 2010), the lack of vegetables at these markets was cited as a major limitation by vendors. While traditionally, there was a lack of market opportunities for vegetable producers during winter months, this challenge appears to be fading. While markets are strong, these marketing opportunities still need to be promoted, supported, and maintained. These markets have been sponsored entirely by one of our non-profit partners, Seacoast Eat Local.

Production and sales of high quality vegetables during winter months is challenging for many reasons. While certain crops (potato, onion, carrot, rutabaga, sweetpotato, winter squash etc.) are well-suited to fall harvest, storage, and winter sales, crops have very specific requirements for storage. Heating/cooling for temperature control, insulation, and humidity regulation are important in maintaining quality such that farmers could market crops at a later time. Most small farms do not have special storage infrastructure. Inadequate knowledge of the specific storage requirements for each crop, cost of storage facility infrastructure, and complex storage facility needs (due to small quantities of diverse products) all limit successful winter marketing of storage crops.

Several crops can be planted during the fall in Northern New England, overwintered in unheated high tunnel (greenhouse) structures, and harvested throughout the late winter and early spring. Again, costs of high tunnel structures limits the degree to which farmers

will experiment with lower-value crops. While some growers have had success holding fall-seeded crops overwinter for spring harvest in low cost “low-tunnels”, this strategy for season extension has received very little research attention. Since most of the successes using these methods have been shared anecdotally by farmers, there have not been replicated experiments evaluating the performance and suitability of various crops, varieties within a crop, planting date, and much more for these overwintering methods. Fundamental research is desperately needed for these systems.

For the details of the project, I’m going to focus solely on my portion of the project, rather than the details from the perspective of my many partners with the project.

### Project Details

- goals and objectives
  1. Develop research-based information about best practices for overwintering vegetable crops in low-cost low tunnel structures in the field.
  2. Facilitate communication between vegetable producers that are currently growing for sales during the winter months
  3. Make the best information about low-cost storage infrastructure and winter growing methods available and easily accessible to producers
  
- target population/audience

The primary target audience for my activities are existing or new commercial vegetable producers in Northern New England that want to sell vegetables during the winter months.
  
- Methods
  1. **Needs assessment.** In collaboration w/partners, we identified 10-15 growers interested in winter production & marketing, developed a phone survey to identify what growers viewed as largest challenges, and implemented the phone survey. We did this before writing the grant to get funding for this project.
  2. **Establish grower advisory group.** In collaboration w/partners, identified 8-10 growers from our states and outside our states that had varying levels of experience that could help us refine our objectives and activities. The advisory group will have periodic conference calls, but we may contact individuals for specific needs and questions at important junctures. We have just completed establishing this group, since the project was funded and the experiments are getting underway.
  3. **Conduct on-farm experiments on fall production.** We will identify grower-cooperators who will conduct experiments at their farms. We will monitor temperatures in low tunnels to evaluate the degree of environmental modification that the low tunnels will confer in varying sites around the Northeast. Growers will benefit in that they can plant whichever crops they desire in the low tunnels, and experiment with this technology at no cost to them.

4. **Conduct research station experiments on fall production.** In the controlled setting of the research farm on campus, we will conduct experiments to evaluate the performance of different crops, varieties of crops, and planting dates in low tunnels.
  5. **Farmer** networking site. In cooperation with partners, we will develop a “winter growing” website, which will serve as a place to collect resources relevant to winter growing. We also aim to develop a farmer-communication and networking tool; the technology to be used is yet to be determined.
  6. **Field Days, Meetings & Outreach. For this project, we will use a variety of more- and less-traditional outreach methods to get knowledge into the hands of growers.**
- evidence of external collaboration & partnership
    - o Communication. From the inception of the project, the partners have communicated on a regular basis. We had several conference calls to discuss what were planning or hoping to do, and truly prepared our grant proposal in collaboration.
    - o Site visits. Each of the partners has traveled to visit the other partners’ sites to better understand each others’ goals and progress, even before the project technically began. We have also all made several visits and had several conversations with grower collaborators during the past year.
  - expected impact
    - o We hope and expect that this project will result in both increased availability of locally grown vegetables during winter months AND increased profitability of vegetable producers.
  - scholarly connection
    - o My expertise is in the area of season extension techniques as they relate to vegetable production, the applied research that is a part of this project will enhance the knowledge base about new production practices that have been studied in a very limited way.

## Evaluation Plan

Since this project was funded by NE-SARE, the Northeast Sustainable Agriculture Research & Education program, evaluation is strongly emphasized. We were asked to provide an evaluation plan as a part of the original proposal. We will be conducting detailed interviews as participants start working with us (before the project begins) and following this up with a post-project interview. I am most interested in whether growers can expand the number of crops they can sell during winter months or otherwise expand their potential for winter sales, so the survey addresses those points. However, the focus of our grant is on increasing farmer income, and as a result we plan to assess the change in income due to winter sales on a per-farm basis at the end of the project.