

Level 2 Joint Programming for DSU, UMES & UDEL

Annual Report for the period November 1, 2010 to December 31, 2011 and

Final Outcome Summary SNE09-03 and SNE10-03

1. Introduction

a. Sustainable agriculture in Delaware and the eastern shore of Maryland has been underrepresented and there has been minimal adoption of sustainable techniques including season extension, reduced-tillage vegetable production, and small-scale ornamental production.

b. This problem has been addressed by the implementation of a regional SARE educator, collaboration with local cooperative extension personnel from Delaware State University, the University of Maryland Eastern Shore and the University of Delaware, and comprehensive programming in the above mentioned focuses. After the first year, it was decided to focus on season extension strategies in order to maximize the program's effectiveness. The largest push was for farmers to include high tunnels into their farms' vegetable production, but also included additional techniques such as row covers, vegetable transplants, and storage crops.

c. The project aimed at educating Ag professionals and farmers and included workshops, farm tours, demonstration plots, publications, and organizing small groups of Ag service providers with overlapping goals, ultimately ending with farmer behavior adoption.

2. Performance Targets

- **Professional Development Performance Target**

Twenty-five agricultural service providers will educate 100 farmers, who farm 800 acres, about season extension techniques and technologies; 30 farmers will adopt at least one learned practice on their farm.

- **Outreach Performance Target**

Twenty-five Ag-professionals and 75 farmers will receive an increase in knowledge of Farmer grants, Partnership grants, Research and Education grants, and Professional Development grants, as well as general sustainable agriculture practices and the SARE organization.

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3. Accomplishment of Milestones

A total of 65 Ag service providers and 219 farmers increased knowledge and skills in multiple aspects of season extension technology at eight state program learning events.

Sixty-five (65) Ag service provider participants and 185 farmer participants learned about high tunnel construction and production through classroom workshops (Nov 11, 2010; Apr 7, 2011; Apr 27, 2011; Nov 4, 2011; and Dec 13, 2011), Field tours (Nov 11, 2010; Apr 7, 2011; Apr, 9 2011; Oct 5, 2011), and One-on-one or small group Farmer and Ag Service Provider meetings/demonstrations throughout the year.

Fifty-five (55) Ag service provider participants and 172 farmer participants increased their knowledge of additional season extension equipment, techniques, and strategies (ie: row covers, vegetable transplants, etc.) through classroom workshops (Nov 11, 2010; Apr 7 2011, Apr 27, 2011, Dec 13, 2011), a Field Tour (Oct 5, 2011) a Greenhouse tour (Nov 11, 2010) and One-on-one or small group Farmer and Ag Service Provider meetings/demonstrations throughout the year

Forty-six (46) Ag service provider participants and 123 farmer participants increased their knowledge of small-scale ornamental production, focusing on extending seasons with cut-flowers through classroom workshops (Nov 11, 2010; Apr 7, 2011), a Field Tour (Oct 5, 2011) and One-on-one or small group Farmer and Ag Service Provider meetings/demonstrations throughout the year

Thirty-one (31) Ag service provider participants and 48 farmer participants responded to follow up surveys conducted by phone and emails detailing their adoption of techniques learned from the program.

There were six standout and successful SARE Season Extension training events during the time period that contributed to the milestones. Short summaries are below:

Extending the Season with High Tunnels took place in Dover, DE on November 11, 2010 and had 25 farmers and seven (7) Ag service providers. It was a classroom-style workshop and field tour that taught participants about various season extension strategies, but focused on high tunnel construction and production of vegetables and ornamentals. Pam West was the main speaker who shared her high tunnel experiences as a very successful farmer at West Farm, which was the state Conservation Farm of the Year in 2009. Located outside Lewisburg, West Virginia West Farm produces food and 120 varieties of flowers for The Greenbrier Resort, and is a major supplier to the local farmers' market. Participants also learned about funding opportunities for high tunnels from an NRCS representative.

A hydroponic greenhouse tour took participants to Smyrna, DE on November 11, 2010 and had 27 farmers and three (3) Ag service providers. They learned about producing high quality gourmet greens and cucumbers, which supply high-end Delaware restaurants, as well as the techniques necessary to successfully produce the vegetables and how to market to and supply restaurants on a regular basis. Many of these techniques are also applicable in lower input applications. Participants also learned about the economics and technologies of the system in use.

A Season Extension Workshop and field tour was located at Delaware State University's Research and Outreach Center in Smyrna, DE on April 7, 2011 and had 12 Ag service providers and 18 farmer participants. Laura McDermott, the Regional Agricultural Specialist from Cornell Extension educated participants about the economics of high tunnel production. She provided detailed economic breakdowns of growing various crops in tunnels including the costs per square foot and the estimated time to make back investments. She also provided resources for participants to take home in digital form to use for their own calculations and decision-making. Participants particularly found the cost analyses of various high tunnel crops very useful. Jason Challandes gave an extensive overview of season extension strategies including utilizing different technologies, techniques, and crops and distributed a publication documenting these. A Delaware farmer spoke about his experiences growing profitably with high tunnels, and an NRCS representative spoke about the high tunnel cost share program. Participants routinely let us know how much it helps to have a farmer's perspective in these workshops.

A high tunnel field day took place on a farm in southern Delaware on April 9, 2011 with 12 farmers and 3 Ag service providers. The farmers shared their experience with high tunnel vegetable production. Extension specialists from UDEL and UMES also spoke about what they have learned in the field and offered a plethora of useful tips.

A workshop and high tunnel tour took place at UMES' small farms conference on November 4, 2011 and had 12 Ag service providers and 32 farmers participate. The topic was High Tunnel Blueberries, Raspberries & Strawberries and included the whole process from start to selling. The conversation also included different types of high tunnels and applications for vegetable crops. A farmer and extension educator taught participants about the best ways to grow in local climates and spoke about work being done to find successful local varieties. A more international industry perspective was also given. The field tour included teaching participants management techniques and what to look for and when to perform maintenance.

A Classroom-style workshop took place on December 13, 2011 as a session at Delaware State University's annual conference, Profiting From a Few Acres with 18 farmers and three (3) Ag service providers. The main speaker was A Cornell Extension Specialist, Judson Reid who really gave an extremely informative and useful talk. It included everything from soil and pest management to maximizing heat retention overnight. Participants said this talk was particularly useful and included a lot of information that they had not heard before. A farmer also spoke of his experience constructing a tunnel and producing vegetables in it. Tim Garrahan, the NRCS farm bill specialist also spoke about the high tunnel program.

4. Outreach Activity	Beneficiary Number					
	Extension	USDA	Non-Profit	Industry	Farmers	Other
PFFA Vendor 11/10/10	5	2		1	32	
PFFA Vendor 11/11/10	4				20	
SARE Grant-writing Workshop 5/25/11	24					
SARE Grant Meeting 6/30/11	2		3			
SARE Farmer Grant Workshop 8/13/11	1				12	
SARE Farmer Grant Workshop Chesapeake College 10/14/11	2				4	
SARE Vendor UMES Conference 11/4/11	11	5	2	3	44	
UDEL/DSU SARE Training 11/29/11	29					
SARE Vendor PFFA 12/12/11	12	3		2	37	
SARE Vendor PFFA 12/13/11	4	2			12	
Funding Opportunities 12/13/11	3	1			16	
One-on-one SARE Grant Meetings throughout year	9		2		12	

Cumulative Final Reporting: For the period July 1, 2009 –December 31, 2011

5. Outcome Summary

Twenty-three (23) Ag service providers who participated in SARE training events have included at least one of the showcased season extension strategies in their programs, which then reached a minimum of 145 vegetable farmers.

A minimum of 38 vegetable farmers who have gained knowledge of a season extension strategy directly from a SARE training event or from Ag service providers who gained knowledge at SARE trainings have implemented at least one season extension strategy.

Eight (8) NRCS representatives who participated in high tunnel trainings at DSU's research farm included critical information in their high tunnel initiative program, which has contributed to make the Delaware program very successful. All SARE high tunnel-training events held by DSU either had an NRCS representative speak about the program and/or distributed information about the High tunnel Initiative. This collaboration greatly contributed to the success of both programs. The majority of recipients gained knowledge of the NRCS initiative through SARE programming prior to applying. Every farmer that received a high tunnel cost-share is directly working with DSU extension educators who have been participants in SARE programming.

Sixteen (16) farmers in Delaware who attended SARE training events or were assisted by Ag service providers who gained knowledge from SARE programming have constructed or are in the process of constructing 17 new high tunnels of at least 1,000 Sq. Feet. Of these, at least 9 (nine) are commercial size tunnels (at least 2,000 sq feet each).

Three (3) farmers on the Eastern Shore of Maryland who attended SARE training events or were assisted by Ag service providers who gained knowledge from SARE programming have constructed or are in the process of constructing new high tunnels.

Four (4) Extension Educators have added high tunnel production to their programs and educated at least 120 farmers. One Ag service provider has developed an educational program around the "Airstream Innovations Tunnel", which was showcased through SARE programming. She has been awarded a USDA 1890 Capacity-Building grant for approximately \$175,000 to construct the tunnel for "free-range" poultry which can still prosper during colder temperatures and have vastly improved air circulation.

Three (3) FSA employees are routinely using information they learned on the Raising Farm Profits Tour to educate farmers about potential options for their business. At least 19 farmers have already received information from the tour, especially relating to alternative and niche markets, and season extension opportunities.

Two (2) Ag service providers have included black plastic mulch for increasing soil temperatures and implementation has occurred on at least four (4) farms.

One (1) Ag service provider has included vegetable transplants in his programming. He has educated 78 farmers, of which, at least 12 farmers have recently adopted this technique for pole lima beans, tomatoes, and corn.

Two (2) Ag service provider's have included planting into rolled down cover crops in programming reaching 45 farmer participants and implementation has occurred on one known farm.

Three (3) Ag service providers in the region, including an ethnic crop specialist added the storage crop of sweet potatoes to their programming and at least 120 farmers have been reached. Three (3) known farmers have added sweet potatoes to their farm.

One (1) extension specialist and professor is using information he learned through the program's Raising Farm Profits Tour about the diversity of the farm models, marketing techniques, and production practices that include reduced-tillage systems in his University class entitled Vegetables and their Production.

6. Beneficiary Outcome Story (optional)

As an Ag service provider, I work directly with farmers in Delaware, largely through one-on-one farm visits. I am a recent DSU graduate and was hired last year as an extension educator in the small farms program. After learning techniques and practices through the SARE program from demonstration plots, meetings, and at the April 7, 2011 season extension workshop, I have been better able to help my farmer clientele implement the practices that I have learned. I have helped 20 vegetable farmers expand their operations over the season using high tunnels, row cover, and black plastic mulch and continue to work with them. Many farmers that I work with want to expand their operation over the colder months and have adopted these new practices to successfully stretch their seasons. I have seen the economic benefits to season extension grow dramatically and have been better prepared to assist them with financial and technical concerns. Consumers are thrilled to be able to have fresh local produce even in the winter months. It benefits the farmers because their produce is ripe and ready to harvest in the off-season so they can get premium prices for their produce. Season extension education is very valuable to educators, farmers and consumers alike.

Megan Pleasanton
Extension Educator
Small Farms Program
Delaware State University

7. Outreach Summary

Outreach for SARE grants and programs reached 240 Ag service provider participants and 434 farmer participants during the time period of July 1, 2009-December 31, 2011 and took place in three main ways: as a vendor at agricultural events, at grant writing workshops/sessions, and by performing direct farm/office visits. The beneficiary table is attached. The Regional SARE Educator, Jason Challandes, set-up SARE displays and greeted visitors at six event days (Sep 12,2009; Nov 10,2010; Nov. 11, 2010; Nov 4, 2011; Dec 12, 2011; and Dec 13, 2011) reaching 75 Ag service providers and 161 farmers. Fifteen (15) grant-writing events in the form of standalone workshops and sessions at Agriculture events took place throughout the region (Jan 20, 2010; Feb 2010; Mar 12, 2010; Apr 2010; May 25, 2010; May 26, 2010; Oct 21, 2010; Oct 29, 2010; May 25, 2011; Jun 30, 2011; Aug 13, 2011; Oct. 14, 2011; Nov 29, 2011; and Dec 13, 2011). Workshops attracted Farmers, Ag service providers, or both totaling 142 Ag service providers and 172 farmers. Direct farm and office visits took place throughout the time period reaching 23 Ag service providers and 101 farmers. Progress in grant submissions in the region is clear. In the 2010 funding period, there were zero farmer and partnership grants from Delaware. In the 2011 funding period, there were two farmer grants and zero partnership grants, with one being funded. In the 2012 funding period there were three farmer and three partnership grants submitted, plus participation in the larger grants by Ag service providers.

8. Attachments

- Beneficiary Form for the period November 1, 2010 to December 31, 2011
- One Travel Scholarship Application and Follow-up Survey
- Sample Advertisement
- Sample Agenda
- Sample Event Pictures
- Sample Event Survey

Training Activity	Beneficiary Number					
	Extensio n	USDA	Non- Profit	Industry	Farmers	Other
Extending the Season with High Tunnels 11/11/10	6	1			25	
Greenhouse tour 11/11/10	3				27	
SARE Season Extension Workshop 4/7/11	4	8			18	
High Tunnel Field Day 4/9/11	3	1			12	
SARE Organic Workshop 4/27/11	8	2			29	
SORC Field Tour and Pole Bean Workshop 10/5/11	10	3		1	58	
High Tunnel Blueberries, Raspberries & Strawberries 11/4/11	8	2	1	1	32	
PFFA-Season Extension-12/13/11	2	1			18	
One-on-one or small group Farmer and Ag Service Provider meetings/demonstrations throughout the year	9	4			22	

Travel Reimbursement for farmer to N.J. Vegetable Growers Convention

Atlantic City, NJ Jan. 11-13, 2011

The SARE PDP grant (6647) funds farmers to go to certain events to gain knowledge that they will share with other farmers at future events.

Farmer: Carolyn Berl-Donald

Organization: The Farm

Address: 23990 That Way Georgetown DE 19947

Phone: 302-854-9260 Email: Carolyn@thefarmorganic.com

Meals: 3 full days at \$45 per day = \$135

Lodging: 2 nights at \$67 + \$14.38 fees/taxes per night = \$162.76

Mileage: 204 miles round trip at \$0.50 per mile = \$102

Total Reimbursement = \$399.76

Training Event Follow-up Survey

Northeast Region SARE Professional Development Program

Applicant Name: Carolyn Berl-Donald

Phone: 302-854-9260 Email: Carolyn@thefarmorganic.com

1. What did you learn from attendance at this conference/event?

I learned about cover cropping preparation and suggested varieties for use on my farm. I gained some knowledge about economic considerations to take into account when planning. I also learned about high tunnel fruit and vegetable production as well as some ways to include agritourism on a farm, which I have been considering.

2. How have you used information learned at conference/event in your work?

I have used the cover crop information to plant on my farm and also began planning a fruit high tunnel crop.

3. What was the most meaningful part of your experience at this conference/event?

Planning for our retail business that we hope to include.

4. Would you recommend this conference/event to others?

Yes

5. If you gave a talk or conducted a workshop, field day, etc. as a result of what you learned, please indicate the date and location of the event and the number of people who attended in each of the categories below:

Date: _____

Location: _____

Attendance:

Extension staff _____ University staff _____ NRCS _____

Nonprofit _____ Private Ag consultants _____ Farmers _____

Other USDA staff (ARS, FSA, etc.) _____ Other _____

**Extend your season and make more money.
Learn how here!**



Season Extension Workshop

For Farmers and Ag Service Providers



**At DSU's Outreach & Research Center
Smyrna-Leipscic Road, Smyrna, DE
10:00-1:00 Thursday April 7, 2011**

**Cornell University Extension Specialist,
Laura G. McDermott** will lay out all you need to know to make informed, economically sound decisions to increase your profits by extending seasons.

A Delaware farmer who has been successful at extending his season will share his knowledge, including his experience in the NRCS high tunnel program.

An NRCS representative will be on hand to discuss the high tunnel program.

Participants can make hands-on comparisons of materials and techniques while touring the farm!

Topics Include:

- Cost/Profit Analysis
- High tunnel options
- Low tunnels
- Row Covers
- Vegetable Transplants
- Long-Storage Products
- Staggered Plantings
- Extending Markets
- Livestock Applications and more

To register for the free workshop, call Daytonia Campbell at 302-857-6462.
For more information, contact Jason Challandes at jchallandes@desu.edu.
RSVP by Thursday March 31, 2011.



Cooperative Extension Education in Agriculture, 4-H and Home Economics, Delaware State University, University of Delaware and United States Department of Agriculture cooperating, Dr. Dyremple B. Marsh, Dean and Administrator. It is the policy of Delaware Cooperative Extension that no person shall be subjected to discrimination on the grounds of race, color, sex, disability, age, or national origin.



Season Extension Workshop
April 7, 2011
10:00AM-1:00PM

Agenda

- 10:00-10:10.....Sign-in and Registration
10:10-10:30.....Introduction to Season Extension - Jason Challandes
10:30-10:45.....NRCS High Tunnel Cost-share Program - Tim Garrahan
10:45-11:15.....The Farmer Perspective - Bob Russell
11:15-11:25.....Break and Box lunch pick-up
11:25-12:40.....The Economics of High Tunnels - Laura McDermott
12:40-1:00.....Equipment and Field Tour

Speakers:

Laura McDermott
Regional Agricultural Specialist
Capital District Vegetable and Small Fruit Program
Cornell University Cooperative Extension

Bob Russell
Vegetable Farmer
Milford, DE

Timothy J Garrahan
USDA-NRCS
Farm Bill Program Specialist
Dover, DE

Jason Challandes
Regional SARE Educator
Delaware and Maryland Eastern Shore
Delaware State University





Season Extension Workshop
April 7, 2011

1. Please Circle your knowledge (or level of understanding) of season extension activities *Before* the workshop.

Non-Existent Minimal Moderate Considerable

2. Please Circle your knowledge (or level of understanding) of season extension activities *After* the workshop.

Non-Existent Minimal Moderate Considerable

3. Please circle how likely you are to include at least one of the activities presented in the workshop on your farm or in your programming and describe on the lines provided.

Not too likely Somewhat Likely Moderately Likely Very Likely

4. What did you find particularly useful and/or not useful in the workshop?

5. Season Extension will likely be the focus of the SARE PDP program at DSU for the next three years. Please circle how valuable you believe it is to continue programs in this area.

Not at all Valuable Minimally Valuable Moderately Valuable Considerably Valuable

6. On a scale of 1 to 10 (10 being the best), please rate how important you believe it is for local farmers, in general, to have programming available in each of the following 12 season extension strategies, even if it is not specifically applicable to you.

___ High tunnels/ greenhouses

___ Low tunnels/ row covers

___ Vegetable transplants

___ Using colored mulch to effect soil temperature

___ Basic, underused IPM techniques in tunnels and greenhouses including bunker plants, sticky traps, and rabbit/rodent barriers

___ Increasing livestock growing/laying rates in cold weather

___ Storage crops including sweet potatoes

___ Common cold weather crops

___ Staggered plantings and stretching harvest seasons for individual crops

___ Adding value and shelf life with canning, processing

___ Strategies for extending market and selling seasons

___ Growing cut flowers from early spring to late fall for additional revenue and to attract pollinators.

7. Please include any other comments you have about this workshop and/or programming at Delaware State University Cooperative Extension in general. Feel free to provide suggestions, complaints, or anything else you would like to add.
