



Iowa Department of Agriculture and Land Stewardship

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Specialty Crop Block Grant Program – Farm Bill 15-SCBGPIA-0001

Final Performance Report January 22, 2019

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FINAL REPORT CHECKLIST

PROJECT REPORT(S)

PROJECT TITLE

Increasing the sales of fruits and vegetables at Iowa Farmers Markets and the consumption of various specialty crops resulting from an advertising campaign promoting the usage of the Farmers Market checks distributed to Iowa WIC participants.

PROJECT SUMMARY

According to the Harvard School of Public Health, a diet rich in vegetables and fruits can lower blood pressure, reduce risk of heart disease and stroke, prevent some types of cancer, lower risk of eye and digestive problems, and have a positive effect upon blood sugar which can help keep appetite in check. The most recent Behavioral Risk Factor Surveillance Survey (BRFSS) however shows 41.7 percent of adult Iowans reported consuming fruits less than one time per day and 26.9 percent of adult Iowans reported consuming vegetables less than one time per day. In 2014, 23,771 WIC participants from all 99 counties received Farmers Market Nutrition Program (FMNP) checks but of all the WIC FMNP checks issued, only 54.30% were transferred to farmers' market vendors and redeemed at their financial institutions. The Iowa WIC program recognizes their role in offering financial support and promoting the accessibility and availability of fruits and vegetables and looks for new ways each year to increase consumption of fruits and vegetables and the redemption rate of Farmers Market checks.

PROJECT APPROACH

Work Plan

Project Activity	Who	Timeline	Results
WIC Farmers' Market checks will be distributed to WIC participants in all 99 Iowa counties.	Local WIC agencies in Iowa	June, July, and August 2016	Completed WIC agencies in all of Iowa's 99 counties began distributing WIC Farmers Market checks on June 1, 2016 as planned. In total, 23,549 of the 24,826 (94.9%) sets of FM checks were issued to eligible clients. Pregnant Women, Breastfeeding Women and Children age 1- 4 years 11 months as of May 31, 2016 were eligible for a set of checks. In an effort to get them into the hands of people who want them and will

			actually use them we did not impose a limit on the number of WIC FM booklets that could be issued to any given family as we have done in years past.
During the clients appointment staff will provide education on the selection and preparation of fruits and vegetables and the use of Farmers Market checks to purchase locally grown fruits and vegetables.	Local WIC agencies in Iowa	June – October 2016	Completed WIC staff used a variety of means to provide education including: one on one, facilitated group discussions, clinic displays, and Iowa State University Extension and EFNEP staff (where available) to promote the purchase and consumption of locally grown in-season fruits and vegetables from Iowa Farmers Markets.
WIC staff will promote accessing wichealth.org lessons “Fruits and Veggies Grow Healthy Kids” and “Be Healthy with Fruits and Veggies” as well as Health eKitchen to increase knowledge and ideas of fruit and vegetable use.	Local WIC agencies in Iowa	June – October 2016	Completed WIC staff promoted the usage of wichealth.org (an online nutrition education tool) to WIC participants including the lessons “Fruits and Veggies Grow Healthy Kids” and “Be Healthy with Fruits and Veggies” and Health eKitchen with an aim to increase participant’s knowledge and provide additional ideas on how to use the produce purchased with WIC FM checks. During the time frame of June 2016 to October 2016, 337 “Fruits and Veggies Grow Healthy Kids” lessons and 74 “Be Healthy with Fruits and Veggies” lessons were completed. 73 recipes on fruits and vegetables were also viewed.
Iowa State University Extension and EFNEP staff will be utilized for further education and demonstration.	ISU Extension and EFNEP staff	June, July, August 2016	Completed Local agencies partnered with ISU Extension and EFNEP staff in areas of the state where they are present. Extension and EFNEP staff used similar nutrition messaging to WIC including “They learn from watching you. Eat fruits and vegetables and your kids will too.” “Cook together. Eat together. Talk together, make mealtime a family time.” and

			<p>“Make meals and memories together. It’s a lesson they’ll use for life.” They also focused on snacks and meals that use local produce during the summer months.</p>
<p>Radio ads promoting the local Farmers Markets and the use of Farmers Market checks will be aired during the peak 6-8 week period.</p>	<p>IDPH State WIC Staff and Learfield News and Ag, LLC staff</p>	<p>May-August 2016</p>	<p>Completed Two radio spots were developed to be aired from June 13, 2016-August 7 2016. One focused on family memories that can be made picking out produce at the Farmers Markets and the other focused on the family memories that can be made while preparing the produce purchased at the Farmers Market. In all 572 30-second spots were aired on 117 stations statewide with a combined reach (number of unique people who hear our message during the campaign) of 1,992,700 people. (See attached Learfield IDPH WIC Recap for data source and additional data.) These radio ads were also used to create two Vimeo videos, (videos that combined the radio ad with pictures of Farmers Markets.) These Vimeos were shared on social media sites this summer.</p>
<p>Social media (Iowa WIC Facebook, IDPH Facebook and IDPH Twitter) will be used to promote the use of Farmers Market checks and utilization and preparation of fruits and vegetables through tips and recipes. Local WIC agencies will be encouraged to do the same on their pages.</p>	<p>IDPH Staff, State WIC Staff and local agency WIC Staff</p>	<p>June- October 2016</p>	<p>Completed Farmers Market locations, vouchers, shopping tips, and local produce along with recipes that feature fruits and vegetables available at Iowa Farmers Markets were all frequent posts on the Iowa WIC Facebook page this summer. A combination of status updates, memes, recipes, links to articles and websites as well as videos were used to promote the WIC Farmers Market Nutrition Program and provide information on how to shop, store, and prepare produce obtained from the Farmers Markets. A total of 49 Facebook social media posts were crafted</p>

			by June 21 st 2016 for posting between then and October 31 st . (This averages out to 3 social media posts per week.) Additional posts were also crafted and posted throughout the June 1- October 31 st time period. These social media posts were also shared with the Iowa Department of Public Health Communications Director to be used on the IDPH Facebook page and the IDPH Twitter site as well as shared with the 20 local agency WIC Coordinators to be used on their agency's social media sites as able.
A final analysis of WIC Farmers Market check redemption data will be gathered and shared with WIC staff.	State WIC staff in conjunction with IDALS staff	November 30, 2016	Completed Results below
A final performance report will be created and shared with IDALS.	State WIC Staff	January 31, 2017	Completed

Roles of Project Partners

The Iowa Department of Public Health WIC Program (WIC) and the Iowa Department of Agriculture and Land Stewardship (IDALS) have had a 25+ year relationship aimed to increase Iowans access and consumption of locally grown fruits and vegetables which in turn supports Iowa Farmers. The two programs work together diligently each year to maximize the funds available and provide Farmers market checks to the most WIC participants as possible. The two programs meet in the early spring of each year to discuss the distribution process and strategize ideas to maximize the benefit to both WIC participants and participating Iowa farmers.

WIC worked with Learfield Communication on this project to develop a media campaign that would promote the utilization of Farmers market checks in a way that would tug at the heart strings of parents and emphasizes messages such as role modeling healthy behaviors and encouraging involving children in choosing and cooking foods. Learfield was able to negotiate additional bonus spots on the metro stations, get us on-sale rates and spot-for-spot bonuses. (Some of these spot bonuses were on-air and some stations spot bonuses were on-line (digital).) The work and added value that came out of the meetings from this partnership led us to pursue matching funds (\$24,000) to develop a second commercial that allowed us to more than double the reach, frequency and gross impressions made had we developed and aired just one commercial. To maximize state wide coverage, reach, and gross impressions, we did a 2 week Des Moines metro rotation between 2 (alternating) stations, then took 2 weeks off and moved the same rotation to Cedar Rapids/Iowa City/Waterloo (2 station rotation, 2 weeks on, 2 weeks off).

WIC and Iowa State Extension and Outreach serve many of the same participants so we often collaborate on nutrition education planning, synergistic messaging and resource sharing. This summer, ISU Extension also focused on Farmers market messaging while working with their clients who are also WIC participants and when recruiting new clients at WIC clinic sites. It is a successful collaboration between the two programs to provide participants with additional resources to address the barriers they have to eating well on a budget.

GOALS AND OUTCOMES ACHIEVED

Goals

The goal for this project was to increase the percentage of WIC FMNP checks redeemed to 60% and push FMNP food dollars earmarked utilization to 100%. Results: Of all the WIC FMNP checks served, 46.1% were redeemed at farmers' market vendor's financial institutions, a figure that is down 4.26% when compared to last year's 50.36%. Statewide the program utilized 75.4% of the USDA FNS 2016 allocated food dollars, down 3.3% from last year's 78.7%.

Expected Measurable Outcomes

By November 15, 2016, 60% of all WIC Farmers Market checks issued statewide will be transferred to farmers' market vendors and redeemed at their financial institutions.

Performance Measure: Beginning June 30, 2016 WIC Farmers Market redemption rates will be tracked on a monthly basis. The results will be tabulated by November 30, 2016.

Results:

Redemptions	June	July	August	September	October	November	Total
2015	\$6,999	\$44,067	\$78,465	\$80,541	\$80,136	\$33,522	\$323,730
2016	\$4,257	\$36,651	\$80,598	\$71,307	\$65,121	\$35,022	\$292,956

BENEFICIARIES

In all our radio advertisements had a combined reach 1,992,700 people! These people all benefited from our messages of shopping at the Farmers Markets, consuming fruits and vegetables, and making family memories together by shopping at the Farmers Markets and cooking together at home. Approximately 736 Iowa farmers that participate as vendors at certified markets also benefited from the campaign through WIC FMNP vouchers that were redeemed (\$292,956 worth) as well as from the other Iowan's who shopped their stand as a result of hearing the radio ad and being reminded and encouraged to shop Iowa's Farmers Markets for things like fruits and vegetables.

LESSONS LEARNED

The 2016 FMNP redemption results were not where we wanted nor what we expected, especially considering so much additional promotion was done compared to years past. Plans are in the works to set up a conference call with local agency staff (those who are actually handing out the checks) to brainstorm how we can increase these redemption and earmarked dollars utilized numbers in 2017. We have heard that nation-wide numbers are down but possible contributions to lower redemption here in Iowa may include:

- eWIC (electronic benefit issuance for WIC) was rolled out in Iowa this year with all agencies changing over by June 1. It's possible that since eWIC benefits are easier to use than the paper checks were, paper FMNP checks did not go over as well.

- In years past, clients were allowed to use their fruit and vegetable WIC vouchers (CVVs) at certified Farmers Markets, but with the change to eWIC, FM vendors no longer have the ability to accept WIC CVVs.
- Retail grocery stores buy and advertise locally grown produce during the summer months. This means, WIC families can purchase in season locally grown fruits and vegetables during their regular grocery shopping trips and not have to plan a separate trip (often with young kids) to the Farmers Market. They can also use their eWIC CVV benefit.
- In years past, we limited the number of sets of FMNP checks each family could receive to one or two, even if there were more eligible members than that in their family. This could have created a feeling of them being a “hot commodity”.

The only known problem/delay experienced during this project period was in script development for our second radio ad. The time it took to get the copy and the voice talent for it to our liking pushed us a little over a week past the half-way mark of the radio campaign. Our first commercial “Farmers Market Meal Memories” aired from June 13- July 19, 2016 and our second commercial “Farmers Market Memories” aired from July 20- August 7, 2016. Although our original plan was to give equal airtime to both commercials, it was important to us to have our commercials just right and we felt that both of our spots accomplished awareness of WIC farmers market check usage and hit our criteria of driving traffic to local Farmers markets to shop/cook with fresh fruits and veggies! Overall this was a great experience and partnership among state and local WIC offices and multiple community partners and farmers. Although we did not hit our target redemption rate we were still able to provide thousands of dollars of produce to WIC participants and support Iowa farmers at the same time.

CONTACT PERSON

This project was overseen by:

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ADDITIONAL INFORMATION

See separate pdf for the radio campaign recap.

FINAL REPORT CHECKLIST

PROJECT REPORT

PROJECT TITLE

Iowa Lakes Community College: Local Produce Project 2015 IDALS Specialty Crop Block Grant Program

PROJECT SUMMARY

The initial purpose of the Local Produce Project was to serve as a regional living classroom, illustrating the process of growing, storing, processing, and preparing locally-grown foods. The IDALS Specialty Crop Block Grant Program was intended to expand the size of the garden and increase the number of people, from pre-kindergarten through adulthood, who would be students in the garden. In addition, produce from the garden would be used throughout the community to increase the availability of fresh fruits, vegetables, and herbs to people from all socioeconomic backgrounds. This project did not build on any previous SCBGP grants.

The local food movement is popular now with the public, leading for a demand in educational resources describing methods of growing, preparing, and storing fresh produce. Initiatives to address childhood obesity, such as the Federal Healthy, Hunger-Free Kids Act of 2010, increased the demand for fresh, often locally-produced fruits and vegetables. Research suggests that K-12 students in rural areas, like the area served by Iowa Lakes Community College, often suffer from lack of resources and local food insecurity, which are factors in childhood obesity.

PROJECT APPROACH

The Local Produce Project timeline consists of two and a half years with two growing seasons. This is a summary of the activities performed during the period of April 1, 2016, to November 30, 2016. The outdoor planting season was slow to get started in the spring of 2016 due to unusually cool, wet weather and the loss of a co-director from the project. Planting began in April 2016 and ended in June 2016. The local Head Start visited the college twice in Spring of 2016. On March 22, 2016, the children in the Upper Des Moines Opportunity Head Start came over to the Landscape & Turfgrass Classroom and learned about the different parts of flowers. They were able to look at many different

pictures of various types of flowers since it was a bit early for blooms outside. On April 25, 2016, the children in the Upper Des Moines Opportunity Head Start came over to the Landscape & Turfgrass Classroom and this time were able to touch & smell many different types of bedding plants. There was over 50 different flowers they were able to look at. They discussed the different sizes of flowers and the different colors of flowers.

The project director participated in Senior Wellness Day on May 18, 2016, by presenting a workshop entitled "How to Plant Seeds & Take Care of Seedlings." Kevin Fehr, an Industry Trainer at Iowa Lakes Community College and a member of the garden planning team, also gave a talk on pollinators.

The garden area was expanded to include a circular section (64 ft. radius) on the north end to function as an outdoor classroom. This expansion planted with native, pollinator-friendly, drought-resistant, and/or otherwise multiuse plants (herbs, dye plants, etc.). Grant funds facilitated the purchase of plants and mulch for this area. A community planting workshop was scheduled to plant this addition (June 8, 2016), and Farm Credit Volunteers, who expressed interested in this activity, were invited. The weather was unpleasant that day, and no volunteers showed up, but the several staff from the College's Community and Business Relations department and the Landscape/Maintenance crew pitched in to complete the planting.

The 2016 planting season was also to include a tomato festival in which several varieties were showcased as a result of the grant funds requested through the Specialty Crop grant program. The tomatoes in the garden suffered from intermittent periods of drought and unseasonably high temperatures; therefore, the tomato festival was not held this year.

The harvest season ran from August through October. The following partners/volunteers helped in the harvest: Ruth & Bill Newhouse, Karen & Wayne Wuebker, Deb & Nick Leewright, Joe Halstead, Friends of the College, Iowa Lakes Community College Hotel and Restaurant Management program, Iowa Lakes Community College Swim Team and Emmetsburg Kiwanis. A Community Education workshop, featuring author Heather Holm, was held at the College during the fall season to educate the general public about pollinator-friendly gardening practices. Ms. Holm is the author of "Pollinators of Native Plants" and is an expert in native bees. The seminar, held on Oct. 7, 2016 had eight participants. Conversations after the workshop indicated that the participants were pleased with what they learned. The end of the 2016 growing season was celebrated with an Italian Buffet, hosted by the College. The College garden produced tomatoes, onions, garlic, various herbs, watermelon, and pumpkins for table decorations for this event. No grant funds were expended for this event other than those contributed for the seedlings.

This table shows which activities were accomplished during the 2016 reporting period.

Project Activities with Target and Completion Dates (2016)		
Project Activity	Target Date(s)	Completion
College students volunteer for planting and harvest seasons (May 2016 for planting and August 2016 for harvest)	May/August 2016	May 15, 2016 and October 20, 2016
Regional schools invited to work in garden for planting season	May/August 2016	September/October 2016
Head Start program works in garden during planting season	May/August 2016	March 22, 2016 and April 25, 2016
Project Learning works in the garden during planting season	May/August 2016	This activity was not completed.
Community Event Workshop	Spring 2016 (March or April)	June 8, 2016
Senior Wellness Day	Spring 2016 (April or May)	May 18, 2016
Community Event Workshop	Fall 2016 (October or November)	October 7, 2016
Italian Buffet	October 2016	October 17, 2016
Tomato Festival	September/October 2016	This activity was not completed.

The Local Produce Project timeline consisted of two and a half years with two growing seasons. This is a summary of the activities performed during the period October 1, 2016 to September 30, 2017. Planting began on March 28, 2017 and ended on June 15, 2017.

The harvest season ran from June 2017 through October 2017. The following partners/volunteers helped in the planting and harvest: Ruth & Bill Newhouse, Karen & Wayne Wuebker, Deb & Nick Leewright, Joe Halstead, Cal Christensen, Bill Lapczenski, Friends of the College, Iowa Lakes Community College Hotel & Restaurant Management and Ag Production Classes, Iowa Lakes Community College Swim Team, and Emmetsburg Kiwanis. The end of the 2017 growing season was celebrated with an Italian Buffet, hosted by the College. The College garden produced tomatoes, onions, garlic, various herbs, watermelon, and pumpkins for this event. No grant funds were expended for the event other than those contributed for the seedlings.

The project director and a volunteer attended the Annual Conference of the Practical Farmers of Iowa in Ames on January 21 and 22, 2017.

This table shows which activities were accomplished during the 2017 reporting period.

Project Activities with Target and Completion Dates (2017)		
Project Activity	Target Date(s)	Completion
College students volunteer for planting and harvest seasons (March 2017 for planting and August 2017 for harvest)	May/August 2017	June 2017 and October 2017
Regional schools invited to work in garden for planting season	May/August 2017	September/October 2017
Head Start program visited garden during harvest season	September 2017	October 2017
Community Event Workshop	Spring 2017 (March or April)	(see table below)
Senior Wellness Day	Spring 2017 (April or May)	May 17, 2017
Community Event Workshop	Fall 2016 (October or November)	October 7, 2016
Italian Buffet	October 2016/2017	October 2016 and 2017
Tomato Festival	September/October 2016 and 2017	This activity was not completed.

One change in the second project year was to develop a variety of smaller workshops instead of one longer-format workshop. The change was to increase the participation of community members. Shorter time commitments and a variety of topics ensured higher turnout. In 2016, eight community members attended workshops; in 2017, 58 community members attended workshops. Below is a table outlining the workshops that were offered.

Workshop Topics	Date	Participants
Gardening Symposium	February 28, 2017	10 participants
Fruit Tree Pruning 101	March 28, 2017	5 participants
Pot-It-Up Container Gardening	May 1, 2017	8 participants
Pot-It-Up Container Gardening	May 2, 2017	3 participants
Plant It for the Birds	May 17, 2017	24 participants
Proper Tree Pruning	October 27, 2017	8 participants

Many community partners were crucial to the success of the project including the Emmetsburg Kiwanis, Iowa State University – Extension & Outreach, and Friends of Iowa Lakes Community College.

GOALS AND OUTCOMES ACHIEVED

Project Goals			
Goal/Outcome	Performance Measure	Target/Expected Outcome	Expected Outcome
Expose Regional Youth to Specialty Crops through processes and nutrition	Engage Head Start, area preschools, daycares, K-12 schools to help with planting, harvesting, and the grow light season	4 Additional Youth Programs, 6 Additional K-12 Schools	Regional youth are exposed to specialty crops, nutritious data, planting and harvesting procedures, and volunteerism.
Expose Current Agriculture Students to Specialty Crop Gardening	Include Supplemental Education within Existing Curriculum in the Garden and in the Winter Season Grow Lights	At least 30 students will learn about specialty crop gardening processes and procedures.	Students in Agri-Business or Agri-Production are exposed to specialty crop gardening as a supplemental income. Students also receive volunteer experience.
Expose Project to Community and Church Organizations.	Project Directors will Travel throughout the Region to Explain the importance of specialty crops and to ask for volunteers throughout the planting and harvest seasons	At least five community organizations and two church organizations will be exposed to the specialty crop garden.	Community outreach will expand volunteerism throughout the region, embrace community needs through partnering with community organizations that provide sustenance to those in need, and educate the community on exercise, nutrition, and specialty crop gardening.

Goal 1: Expose Regional Youth to Specialty Crops through processes and nutrition
(4 additional youth programs and 6 additional regional K-12 schools)

Additional Youth Programs

- | | |
|--|---------------------------|
| 1. Iowa Lakes Community College Swim Team | October 22, 2016 |
| 2. Upper Des Moines Opportunities Head Start | Spring/Fall 2016 and 2017 |
| 3. Local Daycare | Fall 2016 |
| 4. Local Daycare | Fall 2017 |

A Soil Testing Day was planned at the garden in the fall of 2017 with ten (10) regional schools committed to attend. Unfortunately, it rained on the scheduled day and was unable to be rescheduled.

The following schools did participate in activities at the garden:

- | | |
|-------------------------------|--------------------|
| 1. West Elementary School | August 2016 |
| 2. Emmetsburg Middle School | May 2017 |
| 3. Emmetsburg Kindergarteners | September 20, 2017 |
| 4. Emmetsburg High School | September 22, 2017 |

Goal 2: Expose current agriculture students to Specialty Crop gardening
(At least 30 students will learn about specialty crop gardening processes)

Over 45 Iowa Lakes Community College students directly participated in the specialty crop gardening processes.

Eleven (11) students from the agriculture program participated in an optional workshop regarding planting and transplanting specialty crop seedlings on May 1, 2017.

During the fall of 2016, twenty-three (23) students from the Hotel & Restaurant Management program processed pumpkins into pies. During the fall of 2017, twenty-one (21) students participated in pumpkin-processing activities.

In addition, the project team offered opportunities for college students to volunteer at the garden during peak planting and harvest times this season. Although designed for agriculture students (many of whom did participate), the students who worked in the garden were from a variety of programs.

Goal 3: Expose project to community and church organizations

(At least five community organizations and two church organizations will be exposed to the Specialty Crop garden)

The project team implemented a variety of opportunities for community members to volunteer at the garden during peak planting and harvest.

Community organizations

1. Kiwanis
2. Palo Alto County Health System
3. Upper Des Moines Opportunities
4. Iowa State University – Extension & Outreach (Palo Alto County)
5. Emmetsburg Rotary

Local churches were approached and volunteers were solicited through a variety of internal means such as announcements in weekly bulletins. Church communities did not respond as anticipated to project outreach.

Church organizations

1. Holy Family Catholic Church

The project was highlighted on statewide Iowa Public Television and in local newspapers, so many community members were exposed to the project and its outcomes. The project also provided learning opportunities for the general public at the Senior Wellness Day event in the spring, and the Italian Buffet celebrated the project's outreach and accomplishments in the fall.

BENEFICIARIES

Many of the beneficiaries of the produce from the garden were also volunteers. For example, Head Start students planted pumpkin seeds in the spring. They came back in the fall to pick pumpkins with their parents for Halloween. Classroom curriculum introduced these students the life cycle of plants and where their food comes from.

Produce Donations by Organization and Weight (2016 and 2017)

Group Involvement	Product	Weight
Kiwanis <i>Omelet breakfast fundraiser</i>	Onions Green Peppers	110 pounds 50 pounds
Head Start <i>Child & Dad Day</i>	Pumpkins	230 pounds
Emmetsburg Community School District <i>Student meals and teaching purposes</i>	Watermelon Pumpkins	450 pounds 160 pounds
Palo Alto County Health System <i>Meals On Wheels</i>	Watermelon	450 pounds
Iowa Lakes Community College Hotel & Restaurant Management class <i>Pie Making</i>	Pumpkin Pulp	430 pounds pulp
Upper Des Moines Opportunity, Inc. <i>Food pantry</i>	Watermelon Potatoes Broccoli Onions Peppers	250 pounds 400 pounds 80 pounds 40 pounds 30 pounds
Local day care facilities (2) <i>Meals for children</i>	Pumpkins Watermelon Squash	120 pounds
Local nursing homes (1) <i>Meals for residents</i>	Watermelon Squash	80 pounds

Below are charts outlining the economic value of the produce generated by the grant project. Prices for the average retail value for the produce were obtained from the following USDA websites:

<https://www.ers.usda.gov/data-products/fruit-and-vegetable-prices.aspx>

<https://www.ams.usda.gov/mnreports/fvwretail.pdf>

2016 Garden Production

Products produced	Weight	Notes	Price per pound	Total economic value
Broccoli	85 lbs	Too Hot (Cold Crop Year)	\$1.64	\$139.40
Cauliflower	120 lbs	Too Hot (Cold Crop Year)	\$1.23	\$147.60
Cabbage	45 lbs	Too Hot (Cold Crop Year)	\$0.58	\$26.10
Brussel Sprouts	85 lbs	One that came through well	\$2.76	\$234.60
Herbs basil, dill, mint,oregano	2 lbs		\$14.00	\$28.00
Green Beans	465 lbs		\$2.14	\$995.10
Cucumber	280 lbs	Weather Restricted	\$1.30	\$364.00
Cantaloupe	787.5 lbs (approx.) 225 count	Good Crop	\$0.54	\$425.25
Watermelon (seedless)	516 lbs (approx.) 86 count	Good Crop	\$0.33	\$170.28
Zucchini	560 lbs		\$1.64	\$918.40
Eggplant	120 lbs		\$1.08	\$129.60
Garlic	30 lbs	Huge Cloves	\$1.56/sleeve (sleeve= 0.5 lbs)	\$93.60
Green & Multi colored Peppers	414 lbs		Green: \$1.41 Multi: \$2.78	Green: \$291.87 Multi: \$575.46
Tomato	1800 lbs	90 lbs spaghetti sauce	Roma: \$1.24 Beefsteak: \$3.16	Roma: \$1,116.00 Beefsteak: \$2,844.00
Pie Pumpkins	218 lbs	180 pounds pulp	\$1.35	\$294.30
Pumpkins	1296 lbs		\$1.35	\$1,749.60
Squash	350 lbs		\$1.24	\$434.00
Onions	1093.75 lbs (approx.)		\$1.04	\$1,137.50
Sweet Corn	20 bushel (700 lbs)	Destroyed – straight line winds	\$2.69	\$1,883.00
Sunflower seed	16 lbs		\$0.75	\$12.00
Potato	1350 lbs		\$0.56	\$756.00
Total	10,333.25 lbs			\$14,765.66

2017 Garden Production				
Products produced	Weight	Notes	Price per pound	Total economic value
Broccoli	135 lbs	Too Hot (Cold Crop Year)	\$1.64	\$221.40
Cauliflower	40 lbs	Too Hot (Cold Crop Year)	\$1.23	\$49.20
Cabbage	85 lbs	Too Hot (Cold Crop Year)	\$0.58	\$49.30
Brussel Sprouts	None	Too Hot - Large Plants	\$2.76	-
Herbs basil, dill, mint, oregano	4 lbs	More This Year	\$14.00	\$56.00
Green Beans	230 lbs	Weather & Heat	\$2.14	\$492.20
Cucumber	None	Weather Related	\$1.30	-
Cantaloupe	787.5 lbs (approx.) 225 count	Good Crop	\$0.54	\$425.25
Watermelon (seedless)	2000 lbs (approx.)	FEATURED Crop	\$0.33	\$660.00
Zucchini	180 lbs	Crop Decreased	\$1.64	\$295.20
Eggplant	50 lbs	Crop Decreased	\$1.08	\$54.00
Garlic	40 lbs		\$1.56/sleeve (sleeve= 0.5 lbs)	\$124.80
Green & Multi colored Peppers	650 lbs	Heat Crop	Green: \$1.41 Multi: \$2.78	Green: \$458.25 Multi: \$903.50
Tomato	1400 lbs	Some varieties Didn't Fare Well	Roma: \$1.24 Beefsteak: \$3.16	Roma: \$564.52 Beefsteak: \$2,212.00
Pie Pumpkins	650 lbs		\$1.35	\$877.50
Pumpkins (Large)	5,400 lbs 450 count		\$1.35	\$7,290.00
Squash	350 lbs	Same as Last Year	\$1.24	\$434.00
Onions	900 lbs (approx.)	Weather	\$1.04	\$936.00
Sweet Corn	None		\$2.69	-
Potato	1400 lbs		\$0.56	\$784.00
Carrots	300 lbs	Late Crop	\$0.74	\$222.00
Total	17,301.5 lbs			\$17,109.12

LESSONS LEARNED

The most important insight of this project is that a modest-sized garden (roughly two acres) will provide fresh, nutritious garden vegetables, fruit, and herbs to many sectors of the community. Fresh produce from the garden supported two college campus dining services operations for the first semester of each academic year. Processed fruits and vegetables were used throughout the remainder of the year.

In addition to the produce that was used on campus, many community partners received generous donations of fresh fruits, vegetables, and herbs. Volunteers and workshop participants learned hands-on gardening skills so that they might replicate the techniques in their own home gardens and local specialty-crop gardens. Young volunteers (PK/K-12/college students) learned the joy of planting and nurturing plants through harvest.

One of the main challenges was the turnover of key project staff who assisted with program planning and volunteer coordination. The outcomes of the project would have been improved with consistent staffing. Despite the challenges with staffing, the garden was planted and harvested, and the objectives on economic impact, as well as the number of beneficiaries from the project, were achieved.

Another challenge was the disinterest by community members in attending a long-format workshop. Instead, many smaller workshops were offered on a variety of topics such as pruning fruit trees and planting flowers for pollinators. It was easier to get participants to commit to shorter, targeted workshops than a long-format workshop.

Weather is always a challenge when working in Iowa. This was not a surprise but led to unintended consequences for the project. This project ran for two growing seasons; weather affected the project both years. The first year was very hot and had straight line winds at the end of the year. The second year was hot early in the season, affecting the early crops. During the second year, all crops were covered by drip lines, which was not the case in the first year. Another consideration with weather was when programs were planned to be outside in the garden. A program for K-12 students from 10 different regional schools to test soil in the fall of 2017 was rained out. There was not enough time in the growing season nor staff to reschedule the event.

The garden will continue after the grant cycle. The College plans to work with community partners who were active in the project to assist with seed costs and seedlings. In addition, the College has developed a market for some of the products, which will help defer costs in the coming years.

CONTACT PERSON

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ADDITIONAL INFORMATION

Fall harvest 2017



U.S. Department of Education

Green Ribbon School Postsecondary Sustainability Awardee 2017

<https://www.iowalakes.edu/news-events/iowa-lakes-honored-for-sustainability>





Final Report to Iowa Department of Agriculture and Land Stewardship from Practical Farmers of Iowa Jan. 24, 2017

PROJECT TITLE

Growing Together: Collaborative On-Farm Research and Farmer-to-Farmer Knowledge Sharing for Successful Specialty Crops in Iowa

PROJECT SUMMARY

Enthusiasm for fruit and vegetable production is continuing to grow in Iowa and within the Practical Farmers membership. In our most recent member survey, 42 percent of our farmer members reported they raise fruits and vegetables.

Specialty crop farmers in Iowa are becoming more sophisticated and organized in their production and marketing, but more work is needed to build a viable fruit and vegetable industry in Iowa. **Specialty crop farmers see this opportunity, and are eager to encourage and welcome new farmers to fruits and vegetables, to build a diversified farmscape in Iowa that is sustainable – personally, financially, and ecologically.**

Entrepreneurs excited about local foods are asking more of farmers, too. Businesses offering aggregation, transport, light processing, and source-identified sales are popping up around the state, asking farmers to participate in new markets. Furthermore, farmers feel (and experts confirm) that California's continued drought will provide more opportunities for local fruits and vegetables in grocery stores, restaurants, and directly to consumers. As farmers scale up, **they are eager to work together to develop economically and environmentally resilient management practices that work on Iowa farms.**

For Practical Farmers' members, a major component of farmers learning and working together comes from farmer-led, on-farm research. Our research program is unique: Farmers collaborate to set their priorities, and Practical Farmers' staff helps them create protocols to generate scientifically-rigorous data to address their questions.

In 2016, specialty crop farmers conducted research trials on high tunnel tomato varieties, summer broccoli varieties, enterprise budgets for cucumbers, sowed oats for winter cover for garlic, and submitted whole farm financial data to be shared in a Whole Farm Financial Report. Because these projects are developed and implemented by farmers, the tactile experience of the trials is as valuable to the farming community as the quantifiable results. The knowledge gained from this research process spread to other farmers as the research was happening, during field days and farmer networks, and afterward through the research reports, PFI website, and the Cooperators' Meeting. **This timely knowledge distribution through formal and informal networks is critical to fostering and maintaining an engaged and prosperous fruit and vegetable industry.**

As more experienced farmers consider scaling up their production to meet larger market demand, many beginners are entering the industry. Practical Farmers' fruit and vegetable farmers have identified profit, for their own farms and others, as their top priority. More established farmers are

excited to welcome a new generation of fruit and vegetable farmers, and want to help them plan for success. They increasingly recognize that proper recordkeeping from the field to the office is instrumental for understanding their production in detail, and for assessing profit margins and efficiencies.

As several of our support letters from the application indicate, education by farmers and for farmers on recordkeeping and understanding financial strategy and statements was (and will continue to be) needed. We began to address this need with funding from a Specialty Crop Block Grant in 2014.

Practical Farmers collected whole farm financial data from fruit and vegetable farmers, including their profit and loss statement, balance sheet, and a brief demographic questionnaire. Findings from this report were shared at Practical Farmers’ Cooperators meetings and local meetings around the state. The data gathered for Year 1 of the Whole Farm Financial Report – from 11 farms – was the first such data set for Iowa farms. According to Craig Chase at the Leopold Center, it was an extremely rare set of data nationwide. **This year we added a second year of data to the report.**

PROJECT APPROACH

For this grant, Practical Farmers of Iowa held two farminars (farmer-led webinars), two field days, two conference sessions, a research cooperators’ meeting, 26 on-farm research trials, four research reports and the Whole Farm Financial Report, seven news releases, and eight blog posts. All events and deliverables in the work plan are completed, as reflected in the table below.

Practical Farmers staff select speakers and topics based on feedback from farmer committees, event evaluations, and personal communication with farmer-members. For each event, Practical Farmers provide enough assistance to the presenting farmer that they feel confident in their ability to convey their message. We also provide farmers a small stipend, and coordinate advertising and event logistics.

The activities for this grant focused on farmer-to-farmer knowledge sharing among specialty crop farmers and farmer-led on-farm research with fruits and vegetables. In total, 393 people came together for the events, exceeding the goal of 250, and an additional 567 people viewed the two archived farminars. We estimate, conservatively, that more than 104,000 people were reached through media on these events and research projects.

			Outcomes Addressed			
<i>(Proposed Project Activity)</i>			1. Knowledge	2. Farmer Skill	3. Support	4. Public Awareness
Completed Project Activity Title						
Date	Presenters (if applicable)	# impacted				
Further description of activity						
<i>(Farminar on profitability and recordkeeping)</i>						
Farminar - A Simple Recordkeeping System for Fruit and Vegetable Production						
Dec. 16, 2015	Rick Hartmann, Small Potatoes Farm; Daniel Heldt, DanGood Farm	38 live participants + 359 archived views	x	x	x	x
The Hartmann’s completed their 10th growing season as a certified organic vegetable farm in 2014. They have been able to create a stable, well-recognized farm allowing them to meet their financial and lifestyle goals. During this farminar, Rick shared how he and Stacy manage product and financial recordkeeping, and how this data impacts the decisions they make for their farm and family. Rick worked with beginning farmer Daniel Heldt to advise him on starting a recordkeeping system for his operation.						
<i>(Farminar on specialty crop production practices)</i>						
Farminar – Moveable High Tunnels: Pros and Cons						
			x	x	x	x

Feb. 3, 2016	Mike Bollinger, River Root Farm	53 live participants + 208 archived views				
Fruit and vegetable producers interested in adding a high tunnel, have a wide variety of options to consider when choosing what's best for their operation. Though more expensive than a stationary structure, moveable high tunnels can offer many additional benefits and may be worth the expense. Mike Bollinger, organic vegetable farmer and co-founder of Four Season Tools, discussed whether a movable high tunnel would be right for different types of farms. He also offered tips for site selection, crop production, common issues one might encounter and more.						
<i>(Farmers present previous years' results from research report at Cooperators Meeting; design next projects)</i>						
Cooperators Meeting goal was completed as stated.			x	x	x	
Dec. 10-11, 2015		23 fruit and vegetable farmers (65 farmers total)				
Farmers presented findings from the Bell Pepper Variety Trial, Cucumber Enterprise Budgets (Year 1), and No-Till Squash in Over-Wintered Rye. Farmers also discussed Year 1 of the Whole Farm Financial Project and possibilities for creating an on-line data repository to replace the Yield Data Collection Project, which ended in 2015.						
<i>(Recruit farmer research cooperator participants for 2016)</i>						
Cooperators Meeting goal was completed as stated						
Dec. 11, 2015		22 in-field trials planned on 7 different projects; 12 Whole Farm Revenue Participants	x			
22 in-field trials were planned for seven different projects and 12 farmers signed-up to participate in the Whole Farm Revenue Project. On-farm research project list for 2016: Annual Flowering Herbs for Pollinators; Summer Broccoli Variety Trial; Enterprise Budgets for Cucumbers (Year 2); Oat Cover Crop vs. Straw Mulch for Garlic Production; High Tunnel Determinate Tomato Variety Trial; Living Mulch in Cucumbers; Mulch and Foliar Feed Trial in Butternut Squash and Tomato; Clover as Living Cover in Walkways and Side-slopes of Double-Dug Beds, Whole Farm Financial Report (Year 2).						
<i>(Conference session on farm profitability)</i>						
Conference Session: Farming Smarter, Not Harder: Financial Literacy and Business Management			x	x	x	x
Jan. 22, 2016	Richard Wiswall, Cate Farm	110 Attendees				
Wiswall focused his presentation on planning and analysis tools to operate a profitable farm, the language of the business, being an effective manager and using financial tools.						
<i>(Conference Session on specialty crop production practices in Iowa)</i>						
Conference Session: High Tunnel Vegetable Production			x	x	x	x
Jan. 23, 2016	Jill Beebout, Blue Gate Farm	102 Attendees				
During this session, Beebout shared her high tunnel experiences and numbers (production and financial), and her best and worst high tunnel ideas. As she said, "The Good, The Bad, and the Ugly!". This session was extremely popular.						
<i>Select 26 farmer research cooperators, finalize research designs and methods)</i>						
Initially had 32 on-farm trials (more signed up following the Cooperators' Meeting); some projects fell through, resulting 26 research cooperator-trials.			x			
Mar-16		26 farmer projects				
We typically expect a bit of attrition on the research projects due to unexpected events during the farming season. We were pleased to begin the research year with a few extra projects planned, and finish on target.						
<i>Farmer-researchers implement research projects)</i>						
Completed as written			x		x	
April 2016-Nov. 2016		26 farmer projects				
PFI staff worked with farmers to create Research Protocols and excel workbooks for streamlined data collection among projects. This helps ensure farmers correctly implement the replicated plots and are prepared for data collection when the harvest season gets busy. Farmers are more likely to successfully complete their research projects when they have clear protocols in-hand.						
<i>(Farmer-researchers provide Whole Farm Financial data)</i>						
Completed as written			x			
May-16		12 farmers				
Twelve farms provided balance sheets, income statements, and demographic information for their farms. Seven of these farms also provided data for Year 1 of the Whole Farm Financial Project.						

(Field day related to farm profitability)						
Field Day: Partnerships: On-Farm Research and Pollinators						
Aug. 14, 2016	Tim Landgraf and Jan Libbey, One Step at a Time Garden, Kanawha	32 attendees	x	x	x	x
Landgraf and Libbey are long-time participants in on-farm research through PFI's Cooperators' Program. During their field day they showcased two research trials on the farm (High Tunnel Determinate Tomato Variety Trial and Cucumber Enterprise Budget - Year 2) and shared results from past projects that led to changes in their farming practices and management. They also discussed the integration of wildlife and pollinator habitat to their farm.						
(Field day related to production practices for Iowa specialty crops)						
Field Day: Berries + Veggie Starts + Potted Flowers						
June 21, 2016	Leroy and Daniel Zimmerman, Log Cabin Produce and Stillwater Greenhouse, Orchard	35 attendees	x	x	x	x
The Zimmerman brothers farm near each other in Orchard, IA. Leroy shared the intricacies of his strawberry U-pick operation, including rotations, production practices, pricing, and employee and customer management. Daniel shared the greenhouse's methods of seed-starting and propagation, and discussed his experiences marketing in a rural area.						
(Analyze evaluations from farminars, field days, conference sessions, and research questionnaires)						
Evaluations were analyzed by multiple staff during meetings on the noted dates, and by Liz Kolbe after each event.						
Feb. 15, Sept. 30, Nov. 18, 2016	Kolbe, PFI Staff	.				
From the evaluations collected at the events for this grant, more than 87% of attendees said they gained knowledge of the topic presented. At field days, 80% said they planned to make a change to their production practices and 71% said they planned to make a change to their business practices. From farminars, 97% said they gained knowledge, and 61% said they planned to make a change to their production practices. For annual conference sessions, 100% said they gained knowledge, 77 percent reported they planned to make changes to their production practices, and 72% of attendees reported they planned to make changes to the recordkeeping and business practices based information they learned or practices they saw during the presentations.						
(Farmers turn in data for analysis, provide project evaluation; PFI staff completes data analysis)						
Analysis of farmer data completed as described.			x			
Nov. - Dec. 2016	Kolbe	.				
Most farmers use the excel workbooks provided by PFI to submit their data; some submit data hand-written or in a different format. This data is analyzed using JMP Pro 12. When submitting data, farmers are also asked to provide comments on the project; if their expectations were met, what they learned, if they plan to make changes based on the results, and how the research could be adapted in the future. The answers to these questions shape the discussion and conclusion of the research reports.						
(Publish research report on Whole Farm Financial Project, Year 2)						
Research Report for Whole Farm Financial Project complete.			x	x	x	x
Nov. - Dec. 2016	Kolbe, PFI Staff	.				
The Whole Farm Financial Report was completed in Dec. 2016 and uploaded to the website in January, 2017. Four participating farmers provided lengthy feedback on the report and their perception of their own farm numbers in the report and to their own expectations. These insights are very useful; highlighting the importance of goal-setting, planning, and realistic expectations of "good" years vs. "bad" years and farm financial planning. Highlights of the report include: Four of the 12 are meeting their personal expectations for profitability; Number of years farming as a business ranged from 1 – 35 years; The range (difference between highest and lowest reported values) is large for many aggregated categories, reflecting the diversity of specialty crop farm structure; For six farms whose largest market was Summer CSA, they earned, on average, 68 percent of their total revenue through Summer CSA; All participating farms had debt to asset ratios <0.62; Net income ratios among farms ranged from -0.11 to 0.83; Gross income per acre ranged from \$3,020 to \$30,191.						
(Publish research reports on production-oriented farmer-led research projects)						
Four research reports were published. Oat Cover Crop vs. Straw Mulch for Garlic Production; Annual Flowering Herbs for Pollinators; Summer Broccoli Variety Trial; Enterprise Budgets for Cucumbers, Year 2			x	x	x	x
Nov. 2016	Kolbe, PFI Staff	.				

Key Findings, Oat Cover Crop for Garlic: September-planted garlic had higher yield than October-planted, but pervasive rot in several areas of the field may have impacted results. Farmer-researcher is altering protocol and will re-try the project during 2016-2017 broccoli variety.

Key Findings, Annual Flowering Herbs for Pollinators: No farm had successful direct seedings of anise hyssop; Borage filled out and flowered earliest though it became top-heavy, fell over, and had late-season weed management issues; Lemon basil (and anise hyssop, at one farm) had healthy, upright habits but required more early-season weeding; Small native bees had the most individuals counted among all pollinator groups observed on both farms; At Hartmann's, lemon basil had the most pollinators; at McGary's, borage had the highest average count.

Key Findings, Summer Broccoli Variety Trial: Imperial had the highest yields at four of six farms, followed by Gypsy and Belstar; At three farms, Imperial had statistically higher yields than the other varieties; Plant spacing differed by farm, but average yield per area was 0.28 lb/ft² for Imperial, followed by Gypsy (0.27 lb/ft²), and Belstar (0.22 lb/ft²); Following the indications of the data, most farmers strongly preferred Imperial as their summer broccoli variety.

Key Findings, Cucumber Enterprise Budget, Year 2: Labor was the largest expense for Johnson and Libbey, accounting for 74% and 94% of their total expenses, respectively. Labor was only 40% of Franzenburg's costs; Labor breakdown by task differed at each farm. The largest tasks on each farm, measured in hours, were: pruning and trellising at Franzenburg, field maintenance at Johnson, and harvesting and packing at Libbey; Production in the greenhouse at Franzenburg's provided highest yield (lb fruit/ft²) and number of fruit per ft²; Among the three farms, outdoor production at Libbey's had the highest net income per pound.

(Post to Practical Farmers Blog and Practical News, and write News Releases about ongoing projects, events, and research findings.)

Posts accomplished as written, list below:

News Releases:

- "Practical Farmers of Iowa's 2015 fall farminar series starts Nov. 10." Oct. 28, 2015
- "Registration is open for Practical Farmers' 2016 annual conference, "Farmers Teaching Farmers." Nov. 19, 2015
- "Learn farm business skills from Richard Wiswall at Practical Farmers' 2016 annual conference." Dec. 22, 2015
- "Practical Farmers of Iowa's 2016 winter farminar series starts Jan. 12." Jan. 5, 2016
- "Variety trial provides valuable data for Iowa vegetable producers." March 4, 2016
- "Zimmerman brothers' field day will focus on strawberry, commercial greenhouse production." June 10, 2016.
- "Field day at One Step at a Time Gardens will highlight on-farm research, pollinators." Aug. 3, 2016

Blog Posts:

- "RESEARCH REPORT: Summer Squash Following Winter Rye with Strip- and No-Till." Dec. 1, 2015.
- "RESEARCH REPORT: Bell Pepper Variety Trial: Olympus and Revolution." Dec. 21, 2015
- "2016 Annual Conference Preview: Q&A with Richard Wiswall, Cate Farm." Dec. 22, 2016
- "Demonstration Project Report: Seedlings in Soil Blocks and Plug Trays." Feb. 10, 2016
- "Zimmerman Field Day Recap: Strawberries, Cover Crops, Blueberries and Greenhouse Plants." July 5, 2016
- "RESEARCH REPORT: Effect of Compost Extract on Lettuce Yield." July 7, 2016
- "Field Day Recap: On-Farm Research and Pollinator Habitat at One Step at a Time Gardens." Sept. 15, 2016
- "RESEARCH REPORT: Determinate Tomato in High Tunnel, Variety Trial." Dec. 2, 2016

Practical News: All blog posts and news releases are posted in Practical News, PFI's weekly email.

Throughout	Kolbe, PFI Staff	> 104,000 people reached	x			x
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Scope: The scope of the project was actively targeted to specialty crops; funds were not used on other commodities.

Partners: For each of these events, our partners who lead the programming are our member-farmers. Partnering farmers include, Jan Libbey, Tim Landgraf, Leroy Zimmerman, Daniel Zimmerman, Mike Bollinger, Rick Hartmann, Daniel Heldt, Jill Beebout, Richard Wiswall, Carmen Black, Jordan Scheibel, Emma Johnson, Marcus Johnson, Ann Franzenburg, Rob Faux, Tammy Faux, and many others.

GOALS AND OUTCOMES ACHIEVED

... Projected Outcome 1:

26 farmer cooperators and 1,000 fruit and vegetable farmers in Iowa will gain knowledge of farmer-tested best practices for soil health, cover crops, and sustainable production systems. Farmers will also increase their knowledge of fruit and vegetable farm profitability.

Outcome 1, Progress (Complete): **26 on-farm trials** were completed during 2016, with the subsequent research reports being published on the website, on social media (~**6,400 followers**), and emailed to **>5,000 subscribers** of *Practical News*, PFI's weekly E-News. News releases related to on-farm research were picked up by other news outlets, including Morning Ag Clips, ATTRA Weekly Harvest, and local papers. In addition to research projects and media outreach, **960 farmers** attended events or viewed the archived farminar on the PFI website. At our events, more than 87% of attendees said they gained knowledge during the event. If we assume even a miniscule number of farmers gained knowledge from our web content, Practical Farmers **met our goal** of 1,000 farmers.

Activities specific to this outcome of farmer-to-farmer knowledge transfer include the Cooperators' Meeting, farmer-led research projects and reports, field days, farminars, conference sessions, and information on the PFI website and associated media content.

Research projects for this grant included:

- Whole Farm Financial Project, Year 2
- Oat Cover Crop vs. Straw Mulch for Garlic Production
- Summer Broccoli Variety Trial
- Annual Flowering Herbs for Pollinators

... Projected Outcome 2:

Enhance 250 individual farmer's financial, recordkeeping, and production skills.

Outcome 2, Progress (Complete): **393 farmers** participated in person or live online in the events reported above (surpassing the goal of 250 farmers). An additional 567 people viewed the two farminars as recordings from our Farminar Archive. **A total of 960 people attended, viewed, and learned from PFI events funded by this Specialty Crop Block Grant.** From the evaluations collected at these events, more than 87% of attendees said they gained knowledge of the topic presented. At field days, 80% said they planned to make a change to their production practices and 71% said they planned to make a change to their business practices. From farminars, 97% said they gained knowledge, and 61% said they planned to make a change to their production practices. For annual conference sessions, 100% said they gained knowledge, 77% reported they planned to make changes to their production practices, and 72% of attendees reported they planned to make changes to the recordkeeping and business practices based information they learned or practices they saw during the presentations.

Specific comments included:

"I really appreciate the beautiful location and the work and effort of everyone involved to make this a good field day experience."

"Incredibly technical and in depth info on managing business, logistics, time. Incredible."

"Was very helpful for learning how to start high tunnels and make them productive."

"Local trial and error and success stories are the most valuable of all the info. This was my favorite."

... Projected Outcome 3:

Enhance the support network of 250 specialty crop farmers in the state, in person and online.

Outcome 3, Progress (Complete): **393 people gathered in person or live online** for events funded by this grant, and an **additional 567 people viewed archived farminars** (surpassing our goal of 250). Of those 393 people, 302 were gathered at in-person events (field days, conference sessions). At all PFI events, we ask attendees to wear

name tags to help facilitate introductions among attendees. We often find that informal networking during these events (especially during associated snack and meal times) is the most valuable part of attending; strengthening the support and knowledge network of Iowa's farmers, and more fully participating in the culture of agriculture. In 2016, 34% of our field day attendees were first-time attendees. We are very pleased to continue attracting new attendees year after year, further growing the network of farmers and friends-of-farmers. Our field day evaluation data show that 99% of attendees plan to share what they learned with other farmers.

••• **Projected Outcome 4:** *75,000 individuals will have an increased awareness of fruit and vegetable farmers in Iowa.*

Outcome 4, Progress (Complete): From our available media tracking, our seven news releases reached **104,000 readers** (surpassing the goal of 75,000), increasing awareness of Iowa's fruit and vegetable farmers and farmer-led fruit and vegetable research in Iowa. Beyond media tracking from news releases, our *Practical News* reaches over 5,000 individuals, we have 6,400 followers on social media, and a beginning farmer email list of 1,600 people.

Long-term outcomes: We did not specify any outcomes beyond the term of the grant period. However, the outcomes stated above will have a continued impact on specialty crop farmers in Iowa. The farmer-to-farmer model builds a knowledge base among a community of farmers, helping all to achieve success.

Funds: All grant funds were expended during the contract period.

BENEFICIARIES

The **direct beneficiaries of this project are specialty crop farmers in Iowa and aspiring specialty crop farmers**. These farmers are our leaders, and we work hard to ensure our events and projects are relevant to their interests and needs. We are a membership-based organization (~3,000 members), but 46% of our field day attendees are non-members. Our members and attendees range from conventional to organic and young to old (24% of field day attendees identify as "beginning farmers"). Outside direct participation in research and events, all content is available free on our website to other groups and farmers interested in doing farmer-led research and farmer-to-farmer knowledge sharing in their own state or country.

We did not attempt to address economic impact, rather, we find currency in social capital among farmers. For this project, **302 people gathered in person at knowledge-sharing events**, surpassing our goal of 250. In addition, **91 people participated live in farminars**, and **567 viewed these two farminars in the archive**. We view these interactions, and the accrual of knowledge by the farmers involved, as the central accomplishment of our work. We also increased awareness of specialty crops in the state by **reaching more than 104,000 people through news and media**.

LESSONS LEARNED

At the Cooperators' Meeting in 2015 we were able to streamline project design by having simple "project design" sheets to guide farmers as they developed research trials for the upcoming year. Having these sheets seemed to keep discussions from becoming tangents, made communicating ideas more efficient, and gave the farmers confidence knowing they had discussed all the necessary components of their selected projects. An example of a completed project design sheet from the meeting is attached at the end of the report.

When farmers lead your programming, it can feel a bit risky when a new member is hosting their first field day. For this grant, Leroy and Marlene Zimmerman's debuted as field day hosts and were outstanding – open, friendly, and knowledgeable. I am glad we have them as new members of PFI.

CONTACT PERSON

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ADDITIONAL INFORMATION



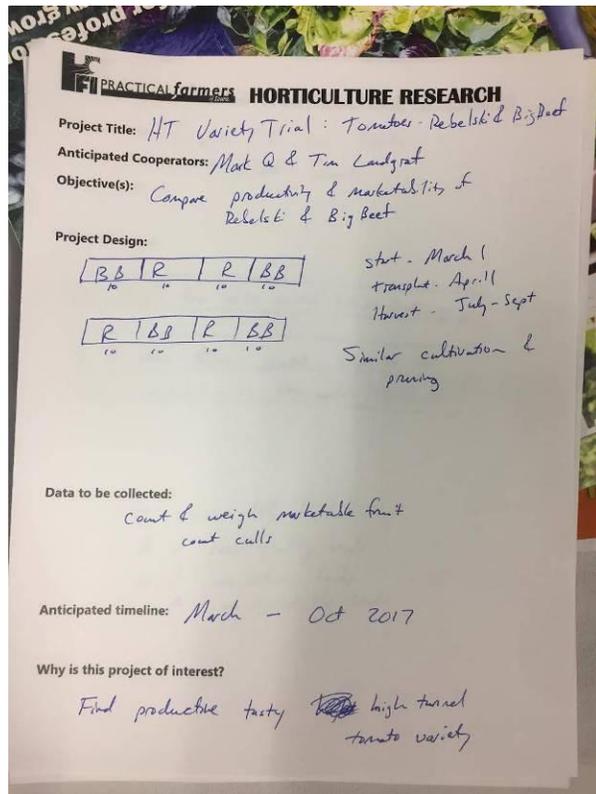
Zimmerman Field Day



Libbey-Landgraf Field Day



Conference Session with Richard Wiswall



Project Design Sheet

GAP/GHP Cost-share Program for Iowa Fruit and Vegetable Producers, 2016-17

Project Summary

Fruit and vegetable growers are facing pressure to comply with food safety standards, known as Good Agricultural Practices (GAPs) and Good Handling Practices (GHPs). Even with the introduction of the FSMA Produce Safety Rule, some wholesale buyers are still requiring annual third-party GAPs certification, which is expensive for small-scale farmers.

This SCBG was used to continue the Iowa GAP/GHP Cost-Share program for two years. The funding was available to any specialty crop farmer in Iowa, and benefited farms inside and outside the IFH Group GAP program. Fruit and vegetable growers received up to \$600 per year to cover the costs of one successful GAP/GHP audit. The program helped farmers maintain their certification as demand and markets for local food continues to develop. It also provided an incentive for new farmers considering certification as part of a group, or on their own.

This project builds on two previous SCBG projects. Today, educational programs are available state-wide to assist farmers with development of farm safety plans and employee training. Cooperative Extension staff have been trained to be food safety coaches for farms interested in certification.

Project Approach

USDA GAP audits of Iowa farms currently range from \$800-1400. Iowa does not have USDA GAP state auditors. The additional travel time to bring in auditors from outside the state adds to the cost of the audit. A cost-share program is one strategy to lowering the annual cost of an audit. It also allows the farmers to choose a certification program that will fit them best.

Another promising strategy for lowering the costs associated with audits is the development of the Iowa Group GAP Network (GGAP). Group GAP is a model of on-farm food safety certification where a collection of farms are organized under a leadership team (Iowa Food Hub) who manages a Quality Management System (QMS) that oversees the group's activity. The group's leadership assigns internal auditors, who are trained by the USDA to audit farms using the same audit standards as the USDA.

The cost-share program was developed through previous SCBG funding. The application and promotional materials were updated, shared with specialty crop farmers and advertised widely on partner websites. State education partners were aware of the program so they can refer farmers. Personal emails and phone calls were sent to farms certified in the past.

Farms were audited during July – October of each year. Farmers submitted cost-share applications to the project coordinator after they received their final report and billing.

Eight farms received cost-share assistance in 2016 and thirteen farms received assistance in 2017. Ten of the farms (47%) during this grant period received cost-share assistance for the first time. Farmers reported that GAP certification helped them access markets worth \$500,000 in sales.

GAP cost-share remains the best option to reduce costs of certification for Iowa specialty crop growers. During this project, certification costs ranged from \$576 to \$1472. The lower costs were realized because of growers participating in GroupGAP. The cost-share program also allows farmers to choose the certification agency that best fits their buyer's needs (i.e. USDA vs. Primus).

Group GAP appears to be the next evolution in food safety certification for growers in Iowa. The shared-risk and internal inspection model will allow more growers to become GAP certified while maintaining the certification costs at a reasonable level. GAP cost-share will continue to be an important tool for both group and non-group farmers to manage the certification costs with the greater cost savings occurring for those farms that are not part of a group.

The contribution of project partners is significant. We rely on local food coordinators across the state to assist with promotion and marketing of the program. Two coordinators with ISU Extension and Outreach and Resource, Conservation and Development (RC&D) are the primary farm coaches for farmer education and training. These partnerships have led to the formation of the Iowa GroupGAP Network which supports cluster of farmers in the state interested in participating in the food safety support, education and audit services of the group.

Goals and Outcomes Achieved

The first goal of the project was to increase the number of farms that participate in GAP cost-share by 50% or 16 farms. This goal was met. As of December 2014, there were 10 USDA GAP certified farms in Iowa. Eight of those farms benefitted from cost-share.

11 farms were USDA GAP/GHP certified in 2016.

- 8 farms received GAP cost-share assistance through this grant. (Some farms did not want to participate in the program or were ineligible.)
- 9 farms were previously certified. 2 farms were certified for the first time; these were all new farms--less than two years in production.

17 farms were USDA GAP/GHP certified in 2017.

- 13 farms received GAP cost-share assistance through this grant.
- 9 farms were previously certified. 8 farms were certified for the first time.

The second goal for this project was to generate \$70,000 more in sales of produce through the Iowa Food Hub (IFH) to markets requiring GAP certification in two years. IFH produce sales in 2015 were \$50,488 (Figure 1). The sales were to market that did not require certification. The increase in produce sales in 2016 and 2017 totaled \$59,254. This total includes GAP and non-GAP markets. One notable new GAP buyer was a private college that started buying produce from IFH in 2017.

Figure 1. Produce sales at Iowa Food Hub

Year	Sales, \$	Change, \$
2015	50,488	
2016	54,410	+3,921
2017	105,821	+55,333
Total		+59,254

This metric only tells part of the story as farmers participating in the Iowa GAP/GHP cost-share program are not required to sell through the Iowa Food Hub to reap the benefits of certification. To put a value on this benefit for farmers, they were asked to estimate the value of those markets requiring GAP certification. Farmers reported that GAP certification helped them access markets worth \$500,000 in sales.

Beneficiaries

Farms benefitted from the project because GAP certification opened up new markets to them including distributors, food service, large grocery chains, and food manufacturers. Since the beginning of the Iowa GAP/GHP cost-share program in 2014, 20 different farms have benefited from this assistance.

Wholesale buyers and their customers benefited from this program because fresh, locally grown produce was available in more locations.

Lessons Learned

GAP cost-share remains the best option to reduce costs of certification for Iowa specialty crop growers. During this project, certification costs ranged from \$576 to \$1472. The lower costs were realized because of growers participating in GroupGAP. The cost-share program also allows farmers to choose the certification agency that best fits their buyer's needs (i.e. USDA vs. Primus).

Group GAP appears to be the next evolution in food safety certification for growers in Iowa. The shared-risk and internal inspection model will allow more growers to become GAP certified while maintaining the certification costs at a reasonable level. GAP cost-share will continue to be an important tool for both group and non-group farmers to manage the certification costs with the greater cost savings occurring for those farms that are not part of a group.

The administration of a cost-share program is relatively low cost provided the hosting agency is willing to contribute a staff person's time to coordinate.

Contact Person

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Iowa Department of Agriculture and Land Stewardship

**Specialty Crop Block Grant Program
Final Performance Report
15SCBGPIA0001
Tammy Stotts**

Project Title: Growing Farm to School from the Ground Up

Project Summary: The Iowa Department of Agriculture and Land Stewardship's (IDALS) Farm to School Program has provided funds and/or supplies to hundreds of schools to create, maintain and educate students all around school gardens. The educational opportunities students receive from school gardens is immense. In addition to learning about the food cycle and the nutritional values of eating fresh fruits and vegetables, gardens are the perfect setting for science labs, math lessons and creative writing classes. This garden project focused on taking school gardens to the next level by offering a compost project to schools that had already established gardens. The goals of this project were to increase student participation in gardens, focus on what specialty crops are not being consumed, and to increase the production of school gardens. This was a two year project with the first year focusing on creating the compost and analyzing school food waste and the second year comparing productivity differences utilizing compost in the garden. To participate, schools had to agree to maintain their school garden for at least two years and incorporate at least one science lesson.

This project was initially requested as a two year project. Due to the time required to create compost, the project was extended a third year to allow schools a full gardening cycle including spring crops.

Project Approach: This garden opportunity was posted on the Iowa Department of Agriculture and Land Stewardship's website, sent to contact lists and sent to schools and contacts through partnerships with the Iowa Department of Education, Iowa State University, and Iowa Department of Public Health. Approved schools were given up to \$400 credit plus a 25% discount through a partnership with Gardener's Supply Company to order a composter and composting supplies. In addition, each recipient received the Gardener's Guide to Composting book entitled Let it Rot! By Stu Campbell. Gardener's Supply was provided with a list of recipients and each order was approved prior to being filled. Schools ordering amounts exceeding the allocation were billed separately, and the supplies were shipped directly to each school. Schools were given a compost log and were to track the top three most wasted specialty crops. Compost collection information was sent to IDALS as well as a harvest log for garden production. After one year, schools were sent a progress report to monitor their work and findings to date.

Due to the number of established school gardens out there, the relevance of this project at this time was ideal to take these gardens to the next level and explore the impact of soil health and food waste.

Goals and Outcomes achieved: Recipients were required to have an existing garden. One of the goals was to increase the number of students involved in the garden by 10%. Surveys reflect that 991 students (including k-12 grade levels) aided in the garden. An additional 487 students were involved in the composting component. This involved compost collection from the school lunch program, classroom lessons, culinary arts programs, work groups and any unharvested produce from the school garden. These numbers reflect an increase in student participation by 60% of the recipients.

Another goal was to increase the production in the school garden utilizing compost. This is a difficult goal to measure as many factors influence garden productivity including pests, rainfall and crop rotation and not all recipients were able to answer this question. In addition, schools collected and measured compost utilizing different methods and tools of measure. Of those responding, 60% did report that their gardens were more productive in the second year while utilizing compost. On average, schools collected 24 gallons of compost.

All of the respondents reported incorporating science into the school garden. Some utilized outside assistance from DNR or conservationists.

Schools were asked to reflect on food waste and identify options that would help reduce this waste. Top items composted include tomatoes, peppers and squash. Each of the respondents indicated that they could implement changes as identified to decrease the amount of specialty crop waste:

- 1- Offer a share box – students not eating their fruit or vegetable could place the item in an area for other students to take rather than throwing them out (whole fruits/vegetables)
- 2- Offer vs served - allow students the opportunity to select a fruit/vegetable rather than just providing them with one
- 3- Serve the produce in different ways or find different recipes
- 4- Increase student awareness of the waste
- 5- Allow more time for students to eat

Beneficiaries: Nearly 1500 students were impacted by this grant project. In addition to the students, some schools offered parents the opportunity to take some of the compost for home gardens as well. Teaching students to garden has a potentially long-term impact as they may carry this knowledge with them into adulthood.

Lessons Learned: Gardening is very rewarding, at the same time, it can be very frustrating. A great spring crop can be decimated by weather, insects, disease and pests (primarily deer). Comparing production from year to year can alter greatly based on any of these factors. We do know that healthy soil produces more food and compost is a great way to enrich a garden. Creating compost does take time, energy and patience.

Feedback from schools as to student reaction to the garden project is overwhelmingly positive. Students love working in the garden. Students are much more likely to try something for the first time if they are involved in growing it. Some schools reported students staying after school, coming in on weekends and even giving up recess time to work in the garden!

Contact:

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Searchable Bee Law Website

Final Performance Report prepared for

March 31, 2017

Stephanie Groom

USDA AMS Agreement 15SCBGPIA0001

Iowa Department of Agriculture and Land Stewardship

Project Title

Searchable Bee Law Website

Project Summary

Because very few city codes were known by members of the beekeeping community before this project, this searchable bee law website clarified potential apiary sites and identified key city staff on a local level as it addressed a common fear of prospective beekeepers: negative consequences that come from asking city officials about their bee laws.

Prior to this project, the Iowa Honey Producers Association (IHPA) had a baseline knowledge of local policies that governed beekeeping for 20 cities. That baseline was not funded by a previous SCBG. This project expanded the baseline through researching the municipal code of an additional 77 Iowa cities and publishing the findings on a searchable bee law website. (Iowa had just under 1000 cities during the 2015 research period.)

Because of lack of knowledge and difficulty in finding and reading zoning maps, the appropriate staff member to approach, understanding legal language of city and state code books, prospective beekeepers were being kept out of the industry and existing beekeepers were not expanding their apiaries.

Over the last 5 years, The Iowa Honey Producers Association (IHPA) has seen an increase in its membership. It also recorded an increase in demand for beekeeping classes – in 2010, there were 10 classes with a total of 50 students; in 2015, the IHPA recorded 20 classes with a total of 225 students. Moreover, Iowa as a state has seen industry growth. Bill Northey stated in Jan. 2016 that *“We’ve grown from approximately 1500 beekeepers in the early 2000s to an estimated 4500 beekeepers today. Much of this new small-scale beekeeping effort is taking place within more urban areas.”* With the additional demand for local and unadulterated honey, a searchable bee law website that helps get people into honey production is very timely.

Project Approach

Narrative text for the Project Approach is followed by a table, which is offered as quick summary and reference.

A key product of this project was a searchable bee law website with the domain name www.BeeLaws.org, which the IHPA is renting until Oct. 8, 2018. Once the State Apiarist selected cities for inclusion on the website, the Principal Investigator (PI) created a script and surveyed 77 cities for the information that was published on the website. A preview of the website was presented at the 2015 IHPA Annual Meeting as part of a training session for meeting attendees to use the new website before beginning beekeeping classes and preparations for a new season began in 2016.

After the training session, beta users and city staff were given time to test and make corrections to the website. BeeLaws.org went live on Jan. 1, 2016. Registration for new website users was required from the beta testing period in Nov. 2015 until Oct. 2016.

The PI composed a press release for IHPA to announce the release of www.BeeLaws.org and sent it to 98 city staff members, 155 media contacts, and 13 beekeeping clubs.

A separate media release sent by the Iowa Department of Agriculture and Land Stewardship was distributed to traditional agriculture media. Spikes in website traffic coincided with local media coverage and events. Data was collected but not analyzed for these coincidental spikes.

As website usage data was collected, the PI categorized the cities by the types of code they had. Results were shared at the Quad Cities Pollinator Conference and at the IHPA 2016 Annual Meeting, and are tabulated elsewhere in this report.

Three hundred nineteen user surveys were sent out and 40%, or 126 users, returned the surveys during the month of Oct. 2016. User traffic was also counted from Jan. until Oct. 2016.

Lastly, year-end data was collected – the number of beekeepers, apiaries, penetration of bee keeping by county, registered students at beginning beekeeping classes, and website analytics were scrutinized to support respective expected measurable outcomes.

Table 1. Work Plan

Activity and task performed	Completed?		Contribution or role of project partner
	Yes	No	
Agency relations and research on local ordinances to give new knowledge	x		None
Website creation to share new knowledge	x		None
Tabulation of results presented and user training conducted at IHPA 2015 annual meeting	x		IHPA gave 35 minutes and its audience to distribute information
Media release	x		None. IDALS unexpectedly sent a separate release.

User survey conducted	x		None
Promotion to IHPA members for one year through newsletter and reciprocal weblink to increase awareness, and establish website as resource		X	<ul style="list-style-type: none"> ■ ¾ of newsletter commitment dropped without notice or explanation ■ Full year of reciprocal link fulfilled. Up to 15% of referral traffic came from IHPA website. ■ PI spoke at Quad Cities Pollinator Conference
Promotion to Tri-State (MN, WI, and IA) conference to share knowledge		x	IHPA gave PI contact information for the potential Tri-State conference organizer
Promotion to general audience to increase awareness to urban beekeeping	X		None. IHPA members may have personally performed this activity but nothing was done on an organizational level.
Analysis of project results and presentation at IHPA 2016 annual meeting to share knowledge	x		IHPA gave 20 minutes and platform to distribute information to its registered attendees.
Attendance data collected	x		IHPA Treasurer gave incomplete data. See Lessons Learned section.

Goals and Outcomes Achieved

All outcomes but one (website influence on users to expand apiaries) were positively met. A quick snapshot is given with the table below. The indicators for the goals are listed in the narrative text that follows.

Table 2. Activities completed in order to achieve performance goals and outcomes

Goal/Outcome Achieved	Relevance to objective, outcome, and/or indicator	Comparison of actual accomplishments with the goal	Complete?
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New knowledge	Beekeeper confidence in legal hive placements, easily identify appropriate city staff/department	Achieved 100%	Yes
New knowledge	Beekeepers can identify cities in which to request policy changes	Achieved 100%	Yes
New knowledge	City staff can easily research peer cities as they look at crafting new policy for emerging areas like urban agriculture	Achieved 100%	Yes
Website visitor analysis: Show that beelaws.org was used by an overwhelming amount of in-state visitors	Irrelevant to project goals, but performed to bely IHPA Board concern	Achieved 100%. 108 out of 126 users surveyed were from Iowa	Yes
Website visit analysis: City drill down	Determine prospective cities for beginning beekeeping classes	Achieved 100%. Five cities were identified as having high registrations for beekeeping classes	Yes
Website visitor analysis	Positive proof of concept (searchable, one-stop website focused on bee laws) and demand	Achieved 100%. Over 6000 unique visitors were recorded from Jan. 1 – Oct. 1, 2016	Yes
Website timeline metrics	Positive proof that events, promotions, and publicity leads to website traffic	Achieved but unanalyzed	No
Analysis of beginning beekeeping attendance records by year	Measured industry growth	Achievement not met. There was a decrease by at least 30 students. See below.	Yes

Analysis of number of apiaries by year	Showed expansion of industry	Achieved. The number of apiaries increased by 230 sites.	Yes
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Outcome Measures

Outcome 1. New knowledge.

Outcome 1.1 Know where bee-friendly city codes exist.

Outcome 1.2 Predict where a new class may be taught successfully.

Outcome 2. Increase in beekeeping classes

Outcome 3. Increase of honey producers.

Outcome Indicators

Outcome 1 Indicator. Collection of city policies was the indicator because there was no collection until this project. The city data analysis is summarized below, and meets Outcome 1.1 -- IHPA can learn where bee-friendly city codes exist. Without listing specific cities:

36 cities, or about 40%, of the included cities specifically allow beekeeping

11 cities, or about 10%, of the included cities specifically prohibit beekeeping

52 cities, about 50%, of the included cities have no code regarding bee keeping. Of those 52 cities:

39 cities have staff that interpreted the lack of code as “bees are allowed.”

10 cities have staff that interpreted the lack of code as “bees are prohibited.”

3 cities had staff that stated the lack of code meant that they would defer to the code from the State of Iowa. (The State has no code regarding bee keeping.)

Table 3. Cities sorted by bee-friendly code

Total number of cities by category

36	11	39	10	3
Cities with "YES" code	Cities with "NO" code	"YES" cities, with no code	"NO" cities, with no code	Cities with no code, defer to state code
Adel	Boone	Altoona	Cherokee	Burlington
Algona	Chariton	Ames	Corning	Greenfield
Anamosa	Decorah	Ankeny	Dewitt	Harlan
Cedar Falls	Eldridge	Atlantic	Fort Madison	
Cedar Rapids	Glenwood	Bettendorf	Knoxville	
Clarinda	Lynnville	Bondurant	Maquoketa	
Coralville	Nevada	Carlisle	North Liberty	
Council Bluffs	Oelwein	Carroll	Peosta	
Cresco	Orange City	Centerville	Sheldon	
Des Moines	Oskaloosa	Charles City	Waukee	
Dubuque	Shenandoah	Clear Lake		
Estherville		Clearfield		
Fairfield		Clinton		
Grinnell		Clive		
Hiawatha		Creston		
Humboldt		Davenport		
Indianola		Denison		
Jefferson		Fort Dodge		
Johnston		Grimes		
Keokuk		Independence		
Keosauqua		Iowa City		
Marion		Iowa Falls		
Mason City		LeMars		
Newton		Manchester		
Norwalk		Marshalltown		
Perry		Mount Pleasant		
Pleasant Hill		Muscatine		
Polk City		Osceola		
Sioux City		Ottumwa		
Storm Lake		Pella		
Tripoli		Pleasantville		

Washington		Red Oak		
Waterloo		Sioux City		
Waverly		Spencer		
Wes Des Moines		Spirit Lake		
Winterset		Urbandale		
		Vinton		
		Webster City		
		Windsor Heights		

Outcome 1.2 Predict where a new class may be taught successfully. By looking at cities with highly viewed webpages, the IHPA may reasonably predict that a beginning beekeeping class may be held there successfully. Table 4 shows the 17 most viewed cities and whether a class was taught there in 2016, whether the city allows beekeeping, and shows a “Y” by the cities where instructors may successfully teach beekeeping classes because demand/interest expressed through pageviews AND favorable city code are both present. Cities where class is already held are not counted with “Y” because they are not potential, but rather, they are existing. Cities marked with Y/N in their “Bee Friendly Code” column indicate that code, or interpretation of the code, changed during 2016. Views of other cities were significantly lower than the 17 included in the table.

Table 4. Cities with the highest number of pageviews

CITY	PAGEVIEWS	UNIQUE VIEWS	CLASS?	BEE FRIENDLY CODE?	POTENTIAL CITY for NEW CLASS?
Des Moines	558	513	N	Y	Y
West Des Moines	306	285	N	Y/N	Y
Urbandale	262	232	N	Y/N	N
Ames	232	214	N	Y	Y
Ankeny	225	210	Y	Y	N
Cedar Rapids	223	201	Y	Y	N
Iowa City	223	206	N	Y	N

Adel	143	127	N	Y	N
Davenport	129	116	Y	Y	N
Waukee	123	107	N	Y/N	N
Sioux City	114	108	Y	Y	N
Altoona	112	104	N	N	N
Waterloo	111	101	N	Y	Y
Indianola	110	99	Y	Y	N
Newton	109	101	N	Y	Y

Additional indicator for Outcome 1. Another round of data analysis compared the cities included in the research to the local governments in the state. Iowa has 99 counties in all; 33 counties are not represented in BeeLaws.org; 6 out of 99 county seats are not represented; users requested an additional 22 cities that are not county seats through the website contact form and email responses from the January media releases. This gives an idea for a corollary to Goal 1.1 – identify potentially significant cities that are missing from the survey. Selection for inclusion was handled by State Apiarist Andy Joseph and PI McGuire based on population and beekeeping activity, but for the IHPA to be responsive to the communities it serves, this may be a point to visit in the future.

Outcome 2 indicator. Increase in beekeeping classes. Beekeeping classes were offered in 20 cities in the calendar year 2015, 26 cities in 2016, and 28 cities in 2017. With a goal of 25 cities by 2017 for project, this outcome was met. There is a possibility that there were 25 cities with beginning beekeeping classes in 2016. See point below under attendance for more discussion.

Outcome 2 Indicator. Measurement of website traffic that is driven to beekeeping classes for one calendar year. Seventeen users reported that BeeLaws.org influenced them to take a beginning beekeeping class.

Outcome 3 Indicator. Positive change in attendance rolls reported to the IHPA from 2016 to 2017. Note that producers can enter the industry through self-education and are not measurable. The IHPA Treasurer reported North Liberty but gave no contact information. The PI made unfruitful inquiries across the state to find a teacher or agency contact, so attendance for 2016 in that city is included but unverified.

There was an overall decrease in beginning beekeeping students in the state. Without using North Liberty for 2016 attendance roll, there were 729 students, and 699 in 2017. If we include North Liberty, there were 740 in 2016 and 699 in 2017. North Liberty is included in the Table 3 below. Note that the first known “late season” class was being held in 2017. Registration for it opened after the deadline for this indicator, but the physical classroom seating limitations would not allow a fully capped class to place attendance across the state into positive growth.

Table 5. Comparison of attendance by city

City	2016 Students	2017 Students	Change = (2017 – 2016)
Albia	-	16	16
Ankeny	104	60	-44
Calmar	-	12	12
Cedar Rapids	50	20	-30
Cedar Rapids	17	7	-10
Cedar Rapids	-	7	7
Cedar Rapids	-	6	6
Cedar Rapids	-	8	8
Chariton	5	-	-5
Council Bluffs	22	2	-20
Davenport	15	-	-15
Davenport	9	15	6
Decorah	21	-	-21

Des Moines - Social Club	23	-	-23
Des Moines - Early	33	18	-15
Des Moines - Botanical Garden	-	-	0
Des Moines - Late	-	8	8
Des Moines - Zoo	-	6	6
Fairfield	14	-	-14
Ft. Dodge Beg	49	45	-4
Ft. Dodge Adv.	18	13	-5
Fredericksburg	11	13	2
Glenwood	8	-	-8
Indianola	33	47	14
Iowa Falls	22	16	-6
Keosauqua	14	6	-8
Knoxville	12	13	1
Marshalltown	34	19	-15
Mason City	33	30	-3
North Liberty	11		-11
Okoboji	20	20	0

Okoboji	-	20	20
Osceola	-	45	45
Oskaloosa	16	16	0
Ottumwa	19	14	-5
Peosta	24	33	9
Polk City - Saturday	30	10	-20
Sioux Center	27	16	-11
Spencer	-	25	25
Spencer	-	20	20
Toddville Beginner	34	48	14
Toddville Advanced	-	12	12
Toddville Queens	-	12	12
Washington	12	12	0
West Des Moines	-	9	9
Total	740	699	-41

Outcome 3 Indicator. Positive growth in apiary numbers. The state apiarist has tallies of beekeepers, apiaries, and colonies by the year through the segment that self-reports through the State Sensitive Crop Registry. These tallies can be used to measure industry growth. Overall, there was positive growth in all categories.

Table 6. Comparison of apiary growth

Year	2015	2016	Change = (2016 – 2015)
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Number of counties with at least one bee hive on the registry	94	99	+5
Number of bee keepers	711	859	+149
Number of bee yards	1,189	1,419	+230
Number of bee hives	10,568	11,419	+851

Outcome 3 Indicator. Measurement of website users who report that the website helped them increase the number of apiaries they manage. The user survey showed that 16 out of 109 users were influenced by BeeLaws.org to increase the number of apiaries managed in 2016. The goal was 50%. This would indicate that BeeLaws.org was not as influential as expected with respect to existing bee keepers looking to identify new bee yards.

Beneficiaries

Beneficiaries include the public, prospective and current honey producers who are seeking legal apiary sites, and city staff members. The total number of measurable beneficiaries would be 859 bee keepers, which is the number of beekeepers registered with the State’s Sensitive Crop Directory in 2016, and a minimum of 77 city staff, for a total of 936 persons. Property owners who are curious about their city’s bee laws cannot be counted, but would also be considered beneficiaries as all citizens are affected by zoning ordinances. Benefits due to a presence or increase of bee hives include intangible and unquantifiable values such as increased floral landscaping and hyperlocal food production (increased vigor and yield for home gardens).

Lessons Learned

This project had a great amount of success in its research of city policy and in its internet publication. The non-research activities, however, proved rather difficult. The PI overcame most issues by believing in the project and seeing it through the end.

Challenge: Treasurer presented attendance numbers and beginning beekeeping class details in a manner that was incomplete, inconsistent with the organization’s newsletter presentation of classes, and conflicted with producing agencies. Corrective Action: PI created a standard, found appropriate class contact information, and recorded each class individually without the Treasurer. Outliers that were discovered outside of IHPA publications were included. North Liberty was recorded and noted as unverified which has been detailed above.

Challenge: Board member requested information that was outside the scope of the project. Corrective action: Information was included in presentation at 2016 IHPA meeting. This was possible only because PI had set up analytics beforehand to track other metrics related to the project.

Challenge: Newsletters for April through Dec. 2016 were missing a quarter page ad. In-kind donation of a quarter page ad given for Jan., Feb., and March 2016 even though IHPA committed to a full year in the Grant Budget. No corrective action taken. Impact was likely seen in terms of prospective user awareness in the survey results. 231 email addresses were collected between soft launch in 2015 and 3/31/2016. Only 89 email addresses were collected from 4/1 through 10/2/2016.

Challenge: Tri-State Honey Producers conference was written into the grant but did not materialize. Corrective action: Quad Cities Pollinator Conference was a presentation venue to a more diverse audience.

Challenge: Collection of 2017 attendance numbers was delayed by varying start dates for beekeeping classes. Corrective Action: Deadline extension applied for and granted. Attendance data was taken by the date rather than at completion of individual class registration periods.

Challenge: Unbudgeted fee for user survey (result of high number of responders) incurred. Corrective action: Taken as an unexpected expense under Supply category

Challenge: Delay of reciprocal link on IHPA website resulted in partial fulfillment of grant commitment (full year was committed per grant budget). Corrective Action: None taken. PI waited for transitioning volunteer's knowledge of grant commitment and skill set to be developed.

Challenge: IHPA rep asked PI and contracted webhost to volunteer expertise and skill in an ownership transition. Corrective action: This was resolved without PI and original webhost. A lapse in service occurred for roughly three weeks in Jan. 2017. The rep's requests were declined as this was outside the scope of this project's work and out of respect for the contractors' professional time.

Challenge: Grant was written under the assumption that all beginning beekeeping students were new. Producing agencies recorded this inconsistently. Corrective action: New and returning students were included.

A high demand for knowledge of city beekeeping policy exists.

Every city is unique in its operation and policy. Cities rely on different offices to handle bee laws. There is little consistency among the 97 cities included in BeeLaws.org.

Cities want to know what other cities have for beekeeping policy.

Being first is always difficult. Iowa remains the only state with a searchable bee law website.

Several folks proposed that IHPA pursue local policy changes using the baseline research for cities with "bee-hostile code." This was an unexpected application of the research. The PI also understands that the baseline has seemed to add a new component to the IHPA Youth Scholarship program, adding more responsibility to the application process.

Contact Person

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Additional Information

A fair amount of unexpected publicity was garnered during the first 9 months of 2016 and appeared to drive traffic to BeeLaws.org. Because the effect of website visitors due to publicity and promotion was not included in the project design or user survey, we cannot know the effect of these events. Incomplete data were collected. Data were not sorted or analyzed.

FINAL REPORT CHECKLIST

The final report will be posted on the SCBGP-FB website and represents an important vehicle for sharing project findings with Federal and State agencies and the public. Final performance reports must illustrate the completion of the activities and outcomes associated with each project within the grant agreement.

PROJECT REPORT(S)

PROJECT TITLE

Edible Classrooms to Promote Specialty Crops

PROJECT SUMMARY

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

The project was addressing the following main purposes:

Problem #1: Low access to and awareness of Iowa specialty crops. This project engaged many citizens, including the disadvantaged demographic, especially families with children, to make them aware of sources of Iowa-grown specialty crops. Community recreation centers are often a resource for low-cost, meaningful programs for income-limited families. A self-guided, outdoor edible classroom at the recreation center gives all families a chance to learn about Iowa specialty crops with every visit. In addition, free and low-cost educational and celebratory events help families ‘try before they buy’ and learn simple, tasty ways to prepare specialty crops. The classroom was also located nearby the area farmers market.

Problem #2: Designing and establishing outdoor, edible classrooms is difficult. Many free curriculum resources exist to teach children about growing food in a garden. A key limiting factor to widespread learning, however, is an affordable, flexible, low-maintenance outdoor space where this curriculum can be applied. Educators and parents lack time and skills in creating these spaces and failures often occur due to a lack of experience and knowledge. This project provides the design and step-by-step establishment of an engaging, manageable outdoor classroom that exemplifies best-practices for learning through fun and engaging activities for families.

- Describe the importance and timeliness of the project.*

Importance and Timeliness. The main partners on this grant (Backyard Abundance, New Pioneer Food Co-op and Field to Family, Farm to School) have encountered increasing demand for services to transform school play yards and community parks into places that grow specialty crops in ways that engage families and build stronger communities. Requests are also increasing for more curriculum opportunities for children to learn about the specialty crops grown by local farmers. This project helps bridge together gaps that increase the effectiveness of these educational endeavors by creating effective learning spaces and at-your-fingertips access to Iowa specialty crop growers’ products.

PROJECT APPROACH

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

The grant completed all of its stated objectives which included:

1. **Create a self-guided, edible classroom at a high-traffic, downtown recreation center.**
2. **Conduct on-going seasonal classes at the classroom.**
3. **Develop an edible classroom publication for use by other organizations and communities.**
4. **Mentor at least two other schools/sites wanting to implement edible classrooms.**

PHASE I: DESIGN (2016)

Activity	Timeline	Notable Results, Conclusions, Recomm
Planning Committee forms and begins biweekly meetings	Oct 2015	Meetings were needed more often in the beginning and less frequently as the project progressed.
Event/Classes Planning Group Formation – Outreach begins to local growers, chefs, partners	Nov 2015	Filed to Family partnership key partner with establishing these contacts.
Launch of new Outdoor Classroom design process with community visioning session	Jan 2016	Very successful model to have community members involved from the beginning.
Development of website content for each of 40 specialty crop signs	Began Feb 2016	Plantmaps was a good partner for this.
Edible Classroom design completed	April 2016	Three revisions with partner and community feedback were made before finalizing.
Implementation of Phase I of outdoor classroom	April 2016	Very successful with the assistance of area community service groups and working with a high school industrial arts class.
Curriculum and Event Programming complete	April 2016	The first year we offered about a few classes, which turned out very successful.
Summer Celebratory Educational Event	Late June 2016	Successful to offer this in conjunction with area Farmer's Market time frame.
Fall Celebratory Educational Event	Late Sept 2016	This was a successful ribbon cutting ceremony with sponsors and city councilmen & major. A potato dig was an attraction for families.
Develop publication for programming and classroom	Oct 2016 – Jan 2017	This publication was key to working with other sites planning to implement an outdoor classroom.

PHASE II: IMPLEMENTATION (2017)

Activity	Timeline	
Review and refinement of events. Expansion of growers and families to be included for 2017 through outreach.	Jan – Mar 2017	<p>We found from year one activities that educational classes have better attendance and learning than celebratory events.</p> <p>We increased the total number of classes for year 2 to 13, as compared to 7 in the first year. (Not included are an additional 8 volunteer events to manage and develop the area.)</p>
Outreach to sites wanted to replicate template. Begin application process. Select Sites for replication assistance	Jan 2017 March 2017	<p>After soliciting interest, we identified two sites by January:</p> <ul style="list-style-type: none"> • Southeast Junior High • School of the Wild <p>We secured funding through grants to design and establish edible classrooms for their educational needs around growing specialty crops.</p> <p>Both designs were implemented and are included in our publication.</p>
Implementation of Phase II of outdoor classroom	Began 2017 March	<p>In late 2016, we solicited funding partners and installed a shade sail in the classroom.</p> <p>Spring of 2017, working with area high school industrial arts students, we installed four additional arbors, seating with folding tables and a stage for the education area.</p>
Refinement and second offering of curriculum and celebratory educational event. Offer training to use templates and curriculum.	April – Oct 2017	<p>In April 2017, we released version one of our Edible Classrooms publication during a teacher training event with 25 attendees. During this training, teachers used Full Option Science System (FOSS) curriculum in the garden setting.</p> <p>We offered the summer solstice and fall equinox events in the Edible Classroom featuring area growers and learning activities.</p>
Peer Focus Group Review of publication.	Oct – Dec 2017	A SurveyMonkey survey was created and sent to classroom and garden educators to collect feedback on the publication
Distribution of Edible Classroom Templates and curriculum publication.	Feb 2018	Made available on our & our partners website, social media and newsletters.

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

Only specialty crops were grown in the classroom and promoted throughout the projects at educational events.

- Present the significant contributions and role of project partners in the project.*

Iowa City Parks and Recreation worked in partnership with Backyard Abundance with the following contributors to the project:

- Field to Family/Farm to School jointly offered the *Garden as Your Classroom* teacher training and 2016 Solstice and Equinox events.
- New Pioneer Food Co-op provided snacks to celebratory events and made donations of seeds & plants for demonstration beds..
- AmeriCorps Green Iowa members were partners for maintaining the classroom.
- Local farmer, Jon Yagla and herbalist CSA manager, Mandy Dickerson provided educational programming.
- Celebratory events were timed in partnership with the Iowa City Farmers Market.
- Hy-Vee provided a \$1000 garden grant to support projects at the classroom to support growing more specialty crops and class offerings.
- An Iowa DNR REAP grant provided development of a water wall at the classroom to demonstrate water conservation principles.
- An Iowa DNR REAP grant provided funding to develop and implement the School of the Wild Outdoor Classroom, which is visited by students from 20 elementary schools and hundreds of summer camp participants each year. School of the Wild staff donated time to the effort. Specialty crops are grown in the classroom as part of the educational curriculum.
- Hy-Vee provided a \$1000 grant to Southeast Middle School to develop and implement their study hall garden featuring specialty crops.
- Bessier Lumber provided discounted cedar lumber to above projects.
- Summer camps that support many lower income families extensively used the Edible Classroom and harvested specialty crops.
- Many local residents harvested free food from the Edible Classroom continuously throughout the season.
- The Good Neighbor Iowa program that encourages reduction of harmful pesticide on landscapes became a supportive partner and will help distribute the garden designs publication state-wide.

GOALS AND OUTCOMES ACHIEVED

- Describe the activities that were completed in order to achieve the performance goals and measurable outcomes identified in the approved project proposal or subsequent amendments.*
- If outcome measures were long term, summarize the progress that has been made towards achievement.*
- Provide a comparison of actual accomplishments with the goals established for the reporting period.*

- *Clearly convey completion of achieving outcomes by illustrating baseline data that has been gathered to date and showing the progress toward achieving set targets.*
- *Highlight the major successful outcomes of the project in quantifiable terms.*

Goal #1	Edible classroom templates and curriculum publication
Measure	Free downloads of online publications. Printed publications made available at a small fee.
Benchmark	No publications in the form we are proposing have been identified. We believe one of the expert organizations in the this field is the Edible Schoolyard that hosts a databases of resources which will be researched heavily, as well as information from curriculum developed by ISU extension.
Target	Provide the template publication to 200 potential organizations that may benefit from its usage. Provide a hard copy and training to 30 educators and landscape designers interested in implementing edible classrooms. Identify and work with two partner organizations desiring to implement an edible outdoor classroom.
Outcome	A hard copy of the draft publication has been shared with 30 educators at the April 2017 training. The online publication is freely available on our website and has been shared with our mailing list of 1200 subscribers. The publication can be found at https://www.backyardabundance.org/resources as the <i>Good Neighbor Garden Designs</i> and <i>The Garden As Your Classroom</i> publications.

Goal #2	Demonstration Site and Outdoor Classroom
Measure	Create an edible specialty crop classroom that engages families in play while providing a low-maintenance, low-cost structural design for classes and programing.
Benchmark	Research exemplary children’s outdoor edible learning classrooms. Review of successes and challenges of using existing gardens used for classes.
Target	Fully implemented landscape and classroom with permanent, educational signs. Design aligns with guide for programming and curriculum making best use of landscape and classroom.
Outcome	Fully implemented landscape and classroom with permanent, educational signs. Hundreds of local residents and regional visitors have utilized the space. Details about the space can be found at https://www.backyardabundance.org/edibleclassroom .

Goal #3	Outreach Programming
Measure	Class registration records, attendee counts, evaluations that measure learning, website visits to online plant list from QR-coded plant signs.
Benchmark	Class evaluations and feedback of surveys from organizations.
Target	250 or more attendees to each celebratory event. 30 participants per class. 30 participants in the training for educators/designers.
Outcome	We significantly increased usage, educational classes and harvesting in the Edible Classroom in 2017. Overharvesting and harvesting before fruits were ripe were new, welcomed challenges. For

2018, we are again refining class offerings based on enrollment numbers and expressed interest from participants at classes and events this year. In Early Spring 2018, we offered a larger class of 80 participants on growing specialty crops for health. A second hands-on planting class drew 35 registrations. Overwhelmingly, evaluation showed participants found the classes valuable although return rates from surveys were sometimes low (see lessons learned).

Additional unexpected positive outcomes include publicity and interest from other organizations beyond the two pilot sites, including:

- We were able to go beyond mentoring the pilot sites; we also assisted with development and installation of similar Edible Classroom spaces, as shown below.
- A visit by the state Sustainable Agriculture Research and Education (SARE) coordinator with 35 Agriculture Educators.
- Numerous inquiries by teachers and businesses to replicate components of the Edible Classroom at their site.
- Interest by the University of California, Berkley, Full Option Science System (FOSS) program to cover parts of the project in their FOSSconnect newsletter that goes out to hundreds of teachers nationwide.
- Interest by City Council members and city staff to include money in the 2018 budget to create other specialty crop spaces at city parks.
- Increased interest in using the Edible Classroom for other natural science initiatives: a pollinator garden and an educational water wall were established through other grants.

Below are some pictures showing highlights from the Edible Classroom.



Picture of the site during the visioning event



Mid-summer 2016 picture of Edible Classroom during class



Sign with List of Partners and Sponsors



New Arbors and Seating Area Installed 2017



Clear Creek Amanda High School Students Spring 2017 Install



Group Tour with Agriculture Educators



Hy-Vee Grocery Announcing Grant Awards



The Garden as Your Classroom Teacher Training



Community Members Planting Garlic



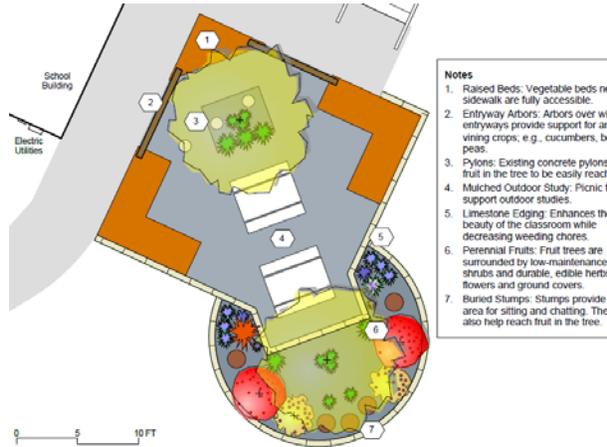
Community Members Harvesting and Meeting Local Farmer



Spring Class 2018 on growing specialty crops



Activity setup for spring class on growing specialty crops - 2018



Southeast Junior High Garden Design - School of the Wild Garden Design - implemented 2017

BENEFICIARIES

- ❑ *Provide a description of the groups and other operations that benefited from the completion of this project's accomplishments.*
- ❑ *Clearly state the number of beneficiaries affected by the project's accomplishments and/or the potential economic impact of the project.*

Beneficiaries from this project include the following:

- Educational class and event attendees were 218 participants for 2016, 315 participants for 2017 and 120 participants January-May of 2018.
- Numerous citizens visit the growing space throughout the growing season. There is not an accurate way to measure these visits. A conservative estimate of 3 visitors per day

using the space x 7 days per week x 25 week growing season = 525 citizen visits per growing season. Folks pass thru the busy pedestrian area on their way to use the recreation center. We also have talked to numerous citizens who visit the space that live in the many nearby apartment buildings without growing space. Consistently, the specialty crop produce is harvested and used by area citizens.

- We were able to go beyond the goal of mentoring the pilot sites; we also applied for grants and assisted with development and installation of similar Edible Classroom spaces at Southeast Junior High and School of the Wild. School of the Wild is an outdoor education program that serves more than a thousand sixth grade students per year. There program now includes a rotation through the outdoor classroom that grows specialty crops in raised beds.
- A visit by the state Sustainable Agriculture Research and Education (SARE) coordinator with 35 Agriculture Educators provided access to the classroom and the supportive publication.
- Numerous inquiries by teachers and businesses to replicate components of the Edible Classroom at their site. We presented about the project with their K-6 Science Advisory Board.
- Hundreds of children attend summer camp at the Robert A Lee recreation center and spend time in the Edible Classroom as part of their camps.
- While exact numbers are hard to compile because of the many users of the space, it is estimated from description above that 2500-3000 folks have benefited from direct or indirect education on the growing on specialty crops in Iowa. Because this space is open for self-guided use every day of the week and is used as a space for teaching other recreation classes, many more folks may have benefitted that are not quantified by the above.

LESSONS LEARNED

- Offer insights into the lessons learned by the project staff as a result of completing this project. This section is meant to illustrate the positive and negative results and conclusions for the project.*
- Describe unexpected outcomes or results that were an effect of implementing this project.*
- If goals or outcome measures were not achieved, identify and share the lessons learned to help others expedite problem-solving.*
- Lessons learned should draw on positive experiences (i.e., good ideas that improve project efficiency or save money) and negative experiences (i.e., lessons learned about what did not go well and what needs to be changed).*

Overall, we experienced minimum problems with this project and the outcomes exceeded our expectations. Below is a recap of some of the problems & delays mentioned in previous reports:

- We significantly increased usage, education and harvesting in the Edible Classroom from 2016 and 2017. We struggled to find a formal evaluation method to quantify learning and

visits to the classroom despite trying online and paper evaluations. Responses were overwhelmingly positive on all evaluations, but response rates were low.

- Some class enrollments were lower than anticipated, while others maxed out attendance. As the seasons went by, we learned how to focus classes more for certain audience needs. For example, we found classes on growing specialty crops focused around improving health, teaching science and with a hands-on planting focus filled up quickly.
- While we thought the celebratory events would draw the most visitors, we found staff using the educational space during summer camps to introduce kids to specialty crops resulted in the largest usage of the space. Hundreds of children were able to experience the growing of specialty crops through this venue. The space has become a destination space for teaching STEAM educational classes next year.
- Evidence was strong of countless visits to the garden for picnic lunches and harvesting in the heavy urban setting surrounded by apartment buildings. During the busy summer camps, we had some areas with heavy foot traffic and overharvesting that had to be managed with rotating seating areas and increased sign usage. Many times we were contacted by visitors who wanted to know how specialty crops were grown or just wanted to express their appreciation of the space (especially if they did not have one at their place of residence).
- Our supply budget was lower than the project needed. Even though the majority of supplies needed for the classroom were donated or offered at a discounted rate, we ended up having to transfer some funds from education to supplies.

CONTACT PERSON

- Name the Contact Person for the Project
 - Telephone Number
 - Email Address

This report was primarily written by Jennifer Kardos, Co-Director for Backyard Abundance, jen.kardos@backyardabundance.org.

Please feel free to contact me with any additional questions.

ADDITIONAL INFORMATION

- Provide additional information available (i.e. publications, websites, photographs) that is not applicable to any of the prior sections.

Thank you again for the amazing opportunity to work on this projects. Many of the city leaders have been inspired by this project to improve community gardens areas and implement concepts – both structurally and educationally – into community and school garden designs to continue to education adults and children of the many specialty crops available that can grow in Iowa.

PROJECT REPORT

MAHASKA COUNTY SEASON EXTENSION DEMONSTRATION

PROJECT SUMMARY

This project demonstrates local vegetable production for the Mahaska County community. It encompasses hobby gardeners and for-profit producers. It focuses on the sustainable process of extending the growing season for local vegetable production.

Support for Mahaska County vegetable production was in deep decline in 2014. The farmers market had been discontinued. Producers were retiring and market vendors were outsourcing production to distant locations. A set of vegetable producers committed to local production reinstated the market and began to look for avenues of expansion. The opportunities for greater supply is demonstrated by this high-tunnel project.

This project is independent of any other SCBGP funds.

PROJECT APPROACH

The Mahaska County Season Extension Demonstration Work Plan was proposed as a chronological set of activities beginning with placement of *infrastructure*, followed by the creation of *publicity*, and completed with measurable *outcomes*. In fact, it developed as public awareness leading to successful outcomes even while the infrastructure was being put into place. Flexibility in development allowed MCSED to maximize results.

The initial press release about the grant by the Iowa Department of Agriculture and Land Stewardship began regular *publicity* in the local media; big news in town. The permit process required to erect a hoop building inside city limits created more news articles and positive recognition of MCSED sustainability efforts by city officials. Periodic news reports have continued through the grant period. This project is perceived by the public as part and parcel of local food production along with farmers market and community gardens.

The work plan *outcome* included mentoring producers in three new hoop buildings. Because of project work two landowners installed hoop buildings for vegetable production. The mentoring process expanded beyond two producers because of the process initiated by the MCSED project.

Originally, the *infrastructure* construction was contracted to the building supplier for the specialized hoop structure. Weather related conflicts caused construction to be taken up by MCSED. This proved a positive aspect although it stretched construction over a course of months. It allowed the hoop building to be constructed in stages with different volunteer groups handling the physical labor. This networking led to more publicity in the county and short term mentoring with a broad cross section of community volunteers.

Additionally, infrastructure included a water catchment system. Two cisterns were placed under ground by an excavator and subsequently filled with rooftop rainwater runoff from the adjacent community center (formerly a public school). Increasing city water fees and severe drought conditions highlight the value of “free” water for irrigation. MCSED recommends setting up rainwater catchments for all hoop buildings.

MCSED has been able to demonstrate specialty crop production without accruing benefit to other commodities.

IDALS is the foundation of the MCSED partner pyramid. Their role goes beyond funding to administrative assistance that directs and sustains completion of local projects. Iowa State University Extension and Outreach High Tunnel Working Group was the next layer of the partner pyramid. MCSED had local supervisors trained in the working group. ISU E&O provided technical assistance which built on the opportunity IDALS initiated. Although both partners are tasked with formal requirements, the roles were exercised with a personal approach that fostered greater results in outcomes. This was reflected by the inclusion of local partners interested in local food production: Mahaska Wellness Coalition, Master Gardeners, Oskaloosa Community Gardens, Cargill of Eddyville, the Oskaloosa Herald and oskynews.com. along with the volunteer community.

GOALS AND OUTCOMES ACHIEVED

The three areas of the work plan were *infrastructure, public awareness, and outcomes.*

Infrastructure included a 30'x72' hoop building and 4600 gallons of water catchment to support irrigation.

Placement of the structure was led by two supervisors from the high tunnel working group. They led over forty-eight volunteers in the process. Two were juveniles working off court mandated community service hours. The rest were a mixture of local companies, church groups and community organizations.

The two cistern tanks required specialized equipment to place. They are the source for watering of the high tunnel crops along with adjacent community gardens. These holding tanks can easily turn over 20,000 gallons of water each season.

Public awareness has utilized local media reporting, six times during the grant period.

Presentations at four community groups along with ad hoc discussions within the community also provided publicity. The site of the large structure along a main road contributes to public awareness in itself.

Outcomes were categorized into survey, new producers, and installation of three new high tunnel systems. Six individuals were identified for mentoring, however, none were new producers, two new high tunnels were erected.

Funding coupled with educational opportunities put our project at the center of a supportive web of success. As a demonstration project we are able to implement a wider variety of options for

seasonal production as opposed to a for-profit process that limits production to a short list of vegetables.

Outcomes were immediate and quantifiable within the grant period. Implementation of short term goals led to recognition of other long term needs: working within the community to generate new producers and new consumers. Typically, current producers have childhood experience with gardening and, similarly, the majority of current consumers who seek out local produce best fit a senior demographic raised on “Victory” gardens. As a rural county, Mahaska County does not have a “foodie” culture. There is a need to rekindle a culture that engages local specialty crops production and values the garden variety vegetables.

There were two new hoop buildings erected as a result of this project. The goal was to establish three new buildings for a total of 4300 square feet production. Including the new MCESD building along with the other two buildings, the accomplishment was a total of 4100 square feet nearly matching the original plan.

The numbers for square footage listed directly above illustrates the simplest baseline data. Although more complicated, the water collection data from rooftop runoff is quite valuable for production plans. The hoop building functions as a barrier from weather creating a desert climate: cool nights, warm days, and no rainfall. Iowa has ample rain to compensate for the dryness if a catchment is utilized.

A cabbage plant, for example, requires twenty gallons of water for complete growth. Typically, cabbage matures in four months. A hoop building of 2160 square feet could host 650 plants (ten rows with walkways allowing one square foot per plant). 650 plants require 13,000 gallons of water

One square foot of rooftop surface can collect one and one half gallons of rainwater from a one inch rainfall when diverted into a cistern. Iowa averages about three inches rainfall per month. A 30'x72' hoop building (2160 square feet) could divert 3240 gallons in a one inch rainfall. Four months minimum would amount to 12960 gallons. Utilizing direct drip irrigation, it would only require one inch per month to carry the production to completion. Therefore, water catchment needs can be reduced to a simple formula of doubling the square footage to determine catchment needs. Each square foot of production space requires two gallons storage.

The local reporting and networking delineated in *outcomes achieved* have produced the best ratio of cost effectiveness. MCSED found the community to be interested of all phases of construction and education with over four dozen unique individuals participating and scores expressing awareness of the project.

Working with the state personnel has been successful also. The ISU group provides technical support for success and IDALS provides administrative success. The personnel involved were capable and personable: no question was too big or too small. Some ag agencies count success only in terms of standard agricultural production. Personnel involved with this project responded positively to unique needs in the Iowa SCBG.

BENEFICIARIES

The local community partnerships benefited most from this project: wellness, community garden, farmers market, low-income agencies, etc.

Producers benefit through the ongoing MCSED network and demonstration process. The varied production (leafy greens, winter greens, and season extension) has numerous practices to explore and refine opportunities. MCSED provides a platform for necessary interaction among local producers as a cooperative, non-profit hub.

The initial investment accrued to local economy: building suppliers, cistern manufacturer, and contractors, nearly \$25,000.00 for the community. Primarily, the current benefit is educational for those who are producing vegetables for the local farmers market, Senior, and WIC market spending. Going forward the high tunnel can generate \$5,000.00 per year. This economic impact will accrue to non-profit efforts at building the local culture of consumption. This includes MCSED sponsoring classes on production and also food preparations.

LESSONS LEARNED

Bad news or good news? Give me the bad news first. A hoop building creates a desert environment. Be prepared to monitor and respond to greater requirements than the usual gardening process.

One fundamental operation is opening and closing sidewalls and sliding doors. Originally MCSED opted for a manual, hand-cranked sidewall system. This required constant temperature monitoring and adjustment by personnel. Replacing it with the thermostatically controlled motor winch relieved pressure on personnel.

Obviously, MCSED values the approval of water catchment as part of the project. Local city sewer costs are estimated as equal to water rates: water in, sewage out. Half of the watering bill would be paid out for no purpose. In a way, savings are doubled by using rainwater.

Education has not been difficult to achieve. Finding people with long term commitment is the downside. Local food production requires know how and long term commitment for profitability. This commitment is not limited to handwork, marketing, and financial investments. It also includes commitment to a community, the schools, the local economy, and years of stability that does not guarantee financial upward mobility.

In conclusion, IDALS is targeting a valuable part of the society of Iowa with these types of grants.

CONTACT PERSON

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Small Plot Hops Farm Viability Study

PROJECT SUMMARY

The initial purpose of the project was to determine the viability of raising hops on small plot production facilities in western Iowa and surrounding areas and therefore improving the value of an alternative crop.

The importance of the project was to determine if small plot hops production could contribute to the economic well being of local growers. The meteoric rise in the number of microbreweries in the US over the past several years has led to some difficulty in hops procurement for breweries that have not had a previous source.

This project was not built upon a previously funded project.

The overall scope of the project did not benefit other commodities.

PROJECT APPROACH

Georgia Leonard has been the primary project manager, providing bookkeeping and all administrative services. She also performed labor in regards to planting, watering and inspection of the bines.

Ian Bottorff provided expertise as to growing, trellis building, irrigation, soil testing, mulching, cover mulch and harvesting.

Charles Leonard provided procurement services as to the acquisition of materials and machinery for the trellis system; poles, cables, anchors, wire; irrigation, water well and wiring supplies; auger, boom truck, tiller, skid loader, mobile platform, tractor, mower, etc.; oast building and aeration equipment; and additional labor.

The three principals also procured the services of several laborers and harvesting and pelletizing companies.

GOALS and OUTCOMES ACHIEVED

Prairie Moonwort Hops Farm procured an approximately one acre plot of lowland in the Loess Hills region of Western Iowa. We renovated an existing well, obtained approximately 50 used telephone poles and several thousand feet of used guy-cable, ground anchors and no. 9 wire and erected a trellis. We ordered and planted three varieties of hops rhizomes and installed a drip irrigation system. We also purchased and installed an electric fence system to exclude cattle that are being grazed in the adjacent pasture.

As expected, yields have steadily risen from zero the first year to a yield of 130 lbs. of pelletized hops for crop year 2018, which has a value of approximately \$1300. We have performed soil testing to ensure there is not a significant loss of soil nutrients, the results of which indicate no current need for soil augmentation, the lab results are available upon request (georgial@railsafetraining.com).

Our most optimistic goal was to produce 900 lbs. of pelletized hops with an estimated value of nearly \$9000 annually. We are currently at about 20% of our long term goal.

Two of the three species that were cultivated have been less than successful but that is due to the poor quality of the rhizomes that were obtained, many of which did not propagate. Replacement rhizomes were also DOA and this has caused the project to be set back at least two years. Future rhizomes would be procured locally from verified stock, perhaps from our own field.

We have had success with both the quantity and quality of Chinook hops. Our Chinook in particular is given high marks for the flavor it imparts, perhaps some of the best in the USA. Unfortunately, the local market seems to be somewhat saturated with that variety though an additional brewery entering the Sioux City market may alter that. We have had some success with Cascade also.

The local climate does appear to be conducive to growing certain varieties of hops, though this study cannot identify all of them.

We have had no problem with plant disease. Shared data from Hoppy Trails Hops Farm, Inwood, Iowa (about 90 miles to the north) indicates that they have had a great deal of problems with disease. This may be due to the fact that their operation is near wooded areas and cropland.

The major successful outcome of the project is to provide potential growers with data showing the likely outcomes of growing hops at a small scale operation.

BENEFICIARIES

Two Sioux City breweries, Brioux City and Jackson Street, have had success brewing beer with our locally grown hops and have indicated that that has helped with their marketing and sales efforts. We think that points to a need for locally grown hops. We hired the services of Hoppy Trails Hops (Inwood, IA) to harvest and pelletize our crop. We also employed several people to help with weed control and harvest.

Though we have been unable to conduct a large scale workshop for potential growers as originally planned, we have had several in-depth conversations with several potential growers who have given consideration to implementing a small commercially viable hops farm. To date, none have “taken the plunge” due to a “wait and see” response. Two of these conversations occurred during the 2017 and 2018 harvests. We also attended and disseminated information at the annual Brioux City Hops Fest in July, 2018. We have made two local home brewing supply companies aware of our product and they have expressed interest.

During our travels we have also visited breweries in New York and Florida inquiring as to their need for Iowa grown hops. Almost all are under contract with established sources at least for the next three years and are precluded from procuring hops from other sources.

CONTRIBUTIONS OF OTHER PROJECT PARTNERS

Jeff Jernberg did not participate.

Dale Bosse, Cody Bosse, Tiffany Bosse, Zach Bosse, and Jeremy Bosse assisted in two fall harvests in addition to bringing friends to help with the harvest. Dale and Jeremy Bosse assisted with some cultivation of plants.

Tim Kacena, Iowa State Representative, and his wife Sue assisted with cultivation, visited the hops farm numerous times and attended the brew fest at Brioux City.

Woodbury County Extension supplied soil bags for soil testing.

Reports have recently been sent to Woodbury County Extension, Plymouth County Extension, Monona County Extension, and Iowa Brewers Guild for dissemination. Contact information for Prairie Moonwort Hops Farm has been enclosed with the report for individuals wanting additional information.

INFORMATION ON TESTING

Midwest Laboratories of Omaha, NE performed the lab tests for soil analysis and our pelletized hops. This information has been provided to the extension offices and the Iowa Brewers Guild as well as Brioux City and Jackson Street Brewing.

FEEDBACK FROM BREWERS

Brioux City has been very pleased with both our Cascade and Chinook hops. In fact, they purchased the entire 2017 crop. Jackson Street Brewing recently placed an order for our 2018 Chinook hops.

Brioux City has given us wonderful reviews for the quality of our hops.

PUBLIC SERVICE ANNOUNCEMENTS

A white paper titled "Hops" has been provided to Brioux City for distribution. It was recently mailed to Jackson Street Brewing as well.

Local newspapers, radio, and television stations were not contacted. However, business cards were printed and have been provided to people who attended the Brioux City Fest. Employees of Brioux City and Jackson Street Brewing have been provided with our business cards to disseminate.

SYNOPSIS: ADVICE FOR POTENTIAL GROWERS

We attempted to plant too near the perimeter of our field and this hindered our ability to operate machinery (tractor, skid loader, platform and mower) within our field.

We did not put enough effort into building an electric fence and we had a cattle invasion. This did not damage the plants, but wreaked havoc on our irrigation system.

The cheap (\$400) drip lines did not work as well as we had hoped. We may invest in a more robust system.

The mulch that we placed on the rows seemed ineffective, at least in the long term. We used ground-up tree branches and it disintegrated within 18-24 months. In the future, we intend to till next to the plants.

Using the white clover as living mulch does seem to be effective. After mowing a couple of times weeds were few between the rows.

Harvesting was expensive. Paying the harvester to travel 90 miles and process the crop(\$350) and the labor to cut plants and feed them to the harvester (\$810) (plus Chuck Leonard donating another 12 hours) cost a total nearly equal to the value of the crop. Pelletizing and packaging the crop cost another \$360.25.

For a small plot hops farms to be viable growers must co-op harvesting costs.

Respectfully submitted,

Charles Leonard

Co-Director

Prairie Moonwort Hops Farm, LLC

Email: chuckl@railsafetraining.com

Phone: 712-490-1521

SPECIALTY CROP BLOCK GRANT PROJECT REPORT - FINAL

PROJECT TITLE

Iowa Commercial Food Crops Survey and Economic Impact Study

PROJECT SUMMARY

Background

This project was implemented to address the lack of current and accurate production and marketing information on Iowa's commercial food crops and the producers that grow these crops. The state had not seen a similar survey and economic impact study since 2000. Lack of current information on this agricultural sector in the state impeded producers from identifying profitable opportunities to expand production; impeded extension and university representatives from identifying the newest and most relevant extension projects and specialty crop research; and hindered government officials from optimizing the allocation of funds, staff, and other resources to support the future of the specialty crops industries. Timely surveys of this nature help industry stakeholders to identify the changes and trends in specialty crop production and marketing; identify future infrastructure needs for processing, packaging, storage, and distribution facilities; and determine the appropriate value of specialty crops for risk management and financing. Another significant outcome of this project was to establish the most up-to-date listing of fruit and vegetable growers in Iowa to facilitate the outreach, education, and inspection activities necessitated by the implementation of the Food Safety Modernization Act.

Importance and Timeliness

Supported by the baseline data collected in the prior food crop surveys, this project provided the complete and up-to-date information necessary going forward to support business decisions and increase the production and market share of specialty crops, ensuring the economic sustainability of specialty crop producers.

The two biggest obstacles identified by beginning farmers are access to land and access to capital. A goal of the survey was to collect current and accurate sales and production data - both vital components of any business plan needed to acquire financial support for new growers who want to get started in specialty crop production.

Risk management plays a crucial role in any specialty crop operation but Iowa lacks sufficient data to effectively establish market specific prices for private insurance claims resulting from pesticide drift and federal insurance programs involving natural disasters. The Risk Management Agency's Whole Farm Revenue Protection became available in 2015. This new risk management tool has coverage levels from 50% to 80% and a Farm Operation Report sets the expected revenue from the farm plan. Specialty Crop producers will use survey/study data to help determine the expected revenue and select the appropriate coverage level.

Identifying new specialty crop producers is very difficult because there are no current state licenses or permits required for most specialty crop production. This project is timely because it now provides an updated directory of specialty crop producers. The Food Safety Modernization Act was signed into law in January 4th of 2011 and compliance will commence within two years of the publication of the final rule. IDALS, in cooperation with its sub-grantee Iowa State University, is the lead state agency collaborating with the Food and Drug Administration to conduct outreach and education to producers for compliance with the produce safety regulations. It is crucial to know who the produce growers are and what they grow to be able to conduct educational and inspection activities and to determine qualified exemptions. Going forward, a comprehensive listing of producers will also enhance stakeholder's efforts to do outreach on grant and cost share programs, risk management options, regulatory changes, new research and extension information, and field day, educational, and networking opportunities.

The recent expansion of Farm to School Programs, Food Hubs, and the rapidly expanding focus on local food production and consumption makes this project an important and timely one to gauge the state of food production and marketing in order to chart a strategic course for the future.

This project has not been previously funded by or a continuation of a project previously funded by the Specialty Crop Block Grant Program.

PROJECT APPROACH

Prior to the start of the grant period, IDALS staff and a planning committee, which is made up of representatives of industry organizations, will complete an initial draft of the survey instrument, develop a Request for Bids for the Economic Impact Study, and compile a comprehensive listing of fruit and vegetable growers in Iowa. The time necessary to complete these activities will be donated toward the project and no Specialty Crop Block grant funds will be used.

Staff at the Iowa Department of Agriculture Land Stewardship (IDALS) worked with colleagues from partner organizations to draft and create the 2015 Iowa Commercial Food Crops Survey. Collaborative partner organizations included Iowa State University, Iowa State University Extension and Outreach, The Leopold Center for Sustainable Agriculture, and the Iowa Field Office of the National Agricultural Statistics Service (NASS). The survey was completed in October of that year, and was designed to collect and tabulate detailed information relating to production volumes, marketing channels, pricing and dollars realized, job creation, and other indirect economic activity. IDALS signed a cooperative agreement with NASS to use this survey to collect production, sales, and marketing data on Iowa grown vegetable, fruits, nuts and other specialty crops. IDALS solicited producer lists from all industry stakeholder organizations and established a comprehensive listing of over 4600 specialty crop producers in the state. A cover letter was created and 10,000 copies of this letter and the survey were printed and delivered to NASS for mailing to Iowa producers. Surveys were mailed to 4600+ producers January 20th of 2016. A follow up post card was mailed approximately ten days later. This was followed by a second mailing of the survey to non-respondents the week of February 15th. NASS also used follow up phone calls in February, 2016 urging completion of the survey and offering assistance. During January and February of 2016 the survey was promoted at conferences and workshops within the state.

IDALS and partner organizations reached an agreement with an ISU economics professor for the creation of an economic impact study (EIS). The survey included EIS questions, and this EIS has been incorporated into the survey results.

In June of 2016 a printer was selected for the completed survey and economic impact study. At that time, NASS began compiling data. Compilation was completed in late July. The analyses were based on responses from 882 horticulture farmers and completed in early September. In early December members of the planning committee created a draft survey findings report and this was disseminated to other members and pertinent stakeholders for review. Initial reviews were completed by the end of December, 2017, and incorporated into the findings document by mid-January of 2017. A final draft of the document was ready for release in late February of that year. At that time, a simple survey was created to gauge users' thoughts on the report's usefulness. This simple survey was included with all hard copies of the survey results report. To date, 67 of these simple surveys have been returned and responses have been tabulated.

The final survey report is a 41-page document as well as an eight page appendices document with additional graphs, charts and tables. The documents are available in printed form and online at <http://www.iowaagriculture.gov/horticultureandFarmersMarket.asp>.

Some significant results, accomplishments, conclusions and recommendations include the following:

- The majority of Iowa's edible horticulture farmers are new (10 years or fewer) to horticulture production, although some may have farmed commodity crops prior to engaging in horticulture production.
- Beginning horticulture farmers are replacing retiring horticulture growers in terms of number (a trend contrary to commodity agriculture); these new horticulture farmers are not farming as many acres.
- Most horticulture farms are 2 acres in size (the median farm size), unchanged in the past 15 years. What *has* changed is the average horticulture farm size, which decreased from 13 acres in 2000 to roughly 8 acres in 2015.
- Analyses found a statistically significant difference in terms of crop diversity by farm size. Farms sized more than 10 acres produce more crops on average (seven) than smaller farms (five).

- The top five crops in 2015 based on the number of (responding) farms producing them were tomatoes, pumpkins, cucumbers, green beans, and winter squash. In 2000, sweet corn was the top crop, followed by tomatoes, green beans, cucumbers, and sweet peppers.
- Melon production declined markedly from 2000 to 2015, with possible causes being high labor costs, volatile markets, local land development, and competition from melon producers in other states and countries.
- By contrast, grape production was up significantly from 2000 to 2015, a change attributed to the rise in wine grape production.
- Iowa's horticulture producers use a variety of markets (an average of two) to sell their products. About half market exclusively through direct-to-consumer markets including farmers markets, farm stands, community-supported agriculture, you-pick, and online sales. However, reliance on sales direct-to-consumers has been shifting to more wholesale markets given that farmers markets in particular, while widely used by horticulture farmers, yield relatively less in sales than other kinds of markets. The top four markets by dollar value of sales were wholesale-type markets, including brokers and wholesalers, contract processors and buyers, retail stores and groceries, and produce auctions. Beginning horticulture producers are more likely to sell exclusively through wholesale markets than more experienced growers, primarily because opportunities abound for new growers to sell wine grapes and vegetables to contract buyers and processors as direct markets become saturated. Finally, marketing options vary by crop or cropping system. For example, more high-tunnel produce is sold at produce auctions. More grapes and *Aronia* berries are sold to contract processors and buyers. Aside from these and honey, all other crops are sold primarily through farmers markets.

Conclusions drawn from the results about industry-associated economic activities and impacts:

- Total edible horticulture sales of survey respondents doubled from nearly \$10 million in 2010 to nearly \$20 million in 2015. More than half of farmers reporting in both 2010 and 2015 (nearly 400) saw a 10 percent sales increase.
- Despite these data, all three surveys show producers derive only a small percentage of their gross income from the sale of horticultural crops. In 1989, nearly one in five received 1 percent or less of their income from horticulture sales; in 2015, nearly half did. On the flip side, in 1989, 14 percent derived 71 percent or more of their gross family income from horticulture whereas only 4 percent did in 2015. While sales are increasing, producers are deriving less gross family income from horticulture production.
- Responding farmers generated nearly \$30 million in direct sales and an additional \$20 million in value-added commerce (such as labor income, returns to farm owners and investors, and tax payments) for a total of nearly \$50 million in economic activity. Of this, 306 jobholders earned \$13 million in labor income.
- These results were used to make estimates for the entire population in the state of Iowa. In 2015, Iowa's horticulture industry generated \$48 million in direct sales and an additional \$32 million in value-added commerce, for a total of more than \$80 million in economic activity. Of this, 503 jobholders received more than \$21 million in labor income, much earned and spent locally. Nearly 900 Iowa horticulture farmers helped the planning committee recommend the following:
 - For farmers wanting to scale up, wholesale markets may be their good choice for sales. However, for some farmers entering wholesale markets may be challenging, as these types of markets are more likely to need a larger quantity of produce that is cleaned and packaged according to industrial standards.
 - Although farmers markets often yield top dollar for food products, on average, farmers' reported total annual sales through this market are low. It is recommended that stakeholders continue to support the states farmers' market association and their initiatives, continue to advocate for the Farmers Market Nutrition Programs and Specialty Crop Block Grants, among others, and seek new streams of market revenue like the Double Up Food Bucks Program which was introduced to several Iowa markets beginning in 2016.

- Responding farmers reported average sales of more than \$33,000 to brokers and wholesalers and more than \$25,000 to contract buyers and processors, versus only \$5,500 in sales via farmers markets. If policy makers, farm service providers, and horticulture industry advocates want to provide support that will reduce risk for farmers and large-volume buyers, they should spend more time and resources helping farmers and high-volume buyers develop sales relationships and make changes to accommodate each other's needs.
- While total sales increased nearly 60 percent from 2010 to 2015, two in three producers in 2015 sold less than \$10,000 worth of horticultural products. Moreover, in 1989, 17 percent of respondents received 1 percent or less of their income from horticultural sales, which increased to 41 percent of respondents in 2015. Only a handful of horticulture farmers seem to be making close to a living wage from commercial fruit and/or vegetable production (10 percent sold \$50,000 worth of product or more in 2015). Policymakers should bear in mind both fulltime or nearly fulltime producers as well as that vast majority of part-time, supplemental-income producers when drafting legislation, developing administrative rules, developing university-level trainings and coursework, and extension outreach.
- Economic impacts of the data show the edible horticulture industry is easily a multi-million dollar contributor to Iowa's agricultural economy. Gross product sales often are the first (and only) measure we tend to think of when considering impact. However, sales are only a fraction of all the economic activity an industry generates. Other kinds of economic activity needed to sustain edible horticulture production include costs associated with labor (for both the farmer/operator and hired labor); the provision of inputs such as fuel, seed, and equipment; tax payments made to government; and farm services provided by accountants, financial planners, insurers, and attorneys. In addition, related activity occurs when the farm family, farm workers, and farm suppliers/service providers spend their earnings locally. The sum of all of these values together gives us a total cost accounting of transactions attributable to the horticulture industry in Iowa. In 2015, the Iowa edible horticulture industry generated more than \$80 million in economic activity, providing \$21 million in labor income to more than 500 jobholders. If the industry were to grow by 5 percent over the next few years, horticulture in Iowa would support an additional \$4 million of economic activity, including \$1.07 million in labor income and 25 jobs.
- The 2015 horticulture survey also revealed different crops rely on different marketing channels to reach consumers. As some markets increase, others decline; communicating this to growers could indicate which crops they might want to grow or phase out based on their marketing preferences. For example, wine grape and *Aronia* berry growers rely on contract processors to buy their products, so growers who would rather grow than market might choose to plant these crops. Growers selling honey might find grocery stores more receptive markets than CSA farms.

No other commodities benefitted from this project.

Contributors and Project Partners

Maury Wills, Bureau Chief for the Agricultural Diversification and Marketing Bureau, and Paul Ovrom, State Horticulturist, both employed with the Iowa Department of Agriculture (IDALS) served in the capacity of steering and planning committee co-chairs. Ovrom wrote all SCBG reports and managed the project's budget. Ovrom also steered the production of the final product and led IDALS editorial input for the final product. The chapter of FSMA was authored by Ovrom. Ovrom oversaw the dissemination of the final product and handled all media inquiries. Wills provided

overarching guidance on the project and provided editorial input on drafts and the final report. Much of the survey content and structure was provided by Wills.

Corry Bregendahl and Arlene Enderton, both with Iowa State University Extension and part-time with the Leopold Center, provided in-kind lead input throughout the process on survey content and design. Enderton was lead author on report drafts and the final report with content and editorial input by Bregendahl. Both played roles in survey dissemination and procuring additional dollar and in-kind funding.

Leigh Adcock with Iowa State University Extension provided content to the final report as well as transcribing initial drafts into the final product. Alice Topaloff provided initial production and design input as well as draft language.

Alexa Wahl, formerly with the Iowa Department of Agriculture, provided the layout and design of the final product as well as critical print production input.

Dave Swenson, Associate Scientist with the Department of Economics, Iowa State University, provided in-kind economic impact study questions for the survey and interpretation of the data generated from those questions. His analyses are found in the final report.

The Iowa Field Office of the National Agricultural Statistics Service provided survey content advice, survey mailing and follow-up inquiries, and survey analyses that were then provided to the planning committee for inclusion in the final report.

Other organizations that provided guidance were the Practical Farmers of Iowa and Eat Greater Des Moines.

Along with IDALS, ISU Extension, and the Leopold Center, additional in-kind and dollar contribution came from the Iowa Farm Bureau, the Iowa Farmers Market Association, and the Iowa Fruit and Vegetable Growers Association.

GOALS AND OUTCOMES ACHIEVED

The goal of this project was to have specialty crop producers and other industry stakeholders use the survey data and economic impact report to make informed decisions and garner support for specialty crops. To that end, a performance measure in the form of a simple survey was created to gauge the number of individuals and organizations that use the survey data and economic impact report in some meaningful way to increase the competitiveness of specialty crops. The survey, shown below was placed on Iowa Department of Agriculture letterhead and included along with a self-addressed paid envelope in all hard copies that were distributed:

“Dear Iowa Horticultural Food Crops Producers and Stakeholders:

The Steering Committee for the Iowa Commercial Horticulture Survey asks if you would please take a moment to complete and return this brief questionnaire on the value of the information provided by this survey.

Please answer the question below by checking all that apply.

The information provided in this survey will be of value to...

- ***startup or expand the operation of a specialty crop establishment.***

- *make business decisions about production, marketing, insurance, risk management, or similar issues.*
- *support a request for funds or other resources that support the competitiveness of specialty crops.*
- *determine industry needs for infrastructure, education, outreach, research or similar activities.*
- *generally support or promote specialty crop production.*
- *not useful or applicable to my needs.*

Please provide any additional feedback in the space below or on the back of this letter.

Once completed, please return the survey using the self-addressed envelope. The questionnaire can also be scanned and faxed to 515-281-6178 or e-mailed to paul.ovrom@iowaagriculture.gov.

Thank you!"

To date, the project has received 71 of the surveys shown above. It was hoped that the project would see 5% of the “measurable outcomes” surveys returned. To date, 1000 “measurable outcomes” surveys have been disseminated with 7% of those completed and returned to project personnel. A summary of the findings is provided below. Producers and other stakeholders that completed this survey could select more than one category, and most returned surveys had multiple categories checked.

Summary of Findings

The info provided in this survey will be of value to...	as of 10/13/17
startup or expand	37
make business decisions	41
support a request for funds or resources	38
determine industry needs	35
generally promote SC production	54
not useful or applicable	1
# or surveys returned to date	71
Survey Comments:	very informative well written, nice publication I wonder how well the survey captured grape stats this has helped me think through some production avenues - thank you

nice publication!
informative, but this didn't capture the grape industry very well did it?
I'd like to see the non-food hort production captured in a survey like this
this was very well done - thank you
thank you for preparing this!
really enjoyed it
question some of the results - some things may have not been captured well; but overall very useful
a beautiful publication and I appreciated the side stories
I'm a star!
I hope the legislators read this. Our industry needs help with standing on equal ground with big agriculture.
I worry about our industry. There seems to be a lot of turnover. And now the Leopold Center is all but closed.
Thank you all for making this publication happen!
This is very helpful information. I wonder how much of the industry was missed though. Thank you.
Would it be useful to do a survey on non-food horticulture in Iowa?

Actual accomplishments for the reporting period were a 7% return on completed “measurable outcomes” survey; the established goal was set at a 5% return.

Returned completed “measurable outcomes” surveys to date are 71 with the expectation a minimum of four additional surveys will be returned by the end of the year. Please see the data provided above with the survey results.

Approximately 1000 surveys have been distributed and an online version is presented on the Iowa Department of Agriculture website. 1000 “measurables surveys” were distributed with hard copies of the Iowa Commercial Horticulture Food Crops Survey Results. 71 completed “measurables surveys” have been returned to date for a 7% return value on these surveys.

BENEFICIARIES

The primary beneficiaries of this project were the state’s vegetable farms (approximately 1000), and fruit, nut, and berry farms (approximately 600). The state’s producer growers encompass a diverse range of growers from fulltime producers with sales in excess of \$500,000 to part-time income-supplemental growers that sell retail from their homes or local farmers markets. Most producers grow a variety of produce that reflects what is typical for the Midwestern region of the United States. Items would include those apples, apricots, asparagus, blackberries, black beans, great Northern beans, kidney beans, lima beans, navy beans, pinto beans, garden beets, blueberries, cabbage, cantaloupe, sweet cherries, sour cherries, chickpeas, collards, sweet corn, cucumbers, currants, eggplants, gooseberries, table grapes, kale, kohlrabi, lentils, lettuces, okra, onions, peaches, pears, potatoes, pumpkins, radishes, raspberries, spinach lettuce tomatoes, squash varieties, sweet potatoes, and watermelon,

Additional beneficiaries include the support organizations like Iowa Department of Agriculture and Land Stewardship, Iowa Farm Bureau Federation, Leopold Center for Sustainable Agriculture, Iowa

State University Extension & Outreach, Iowa Fruit and Vegetable Growers Association, Practical Farmers of Iowa, the Iowa Farmers Union, the Iowa Resource Conservation and Development offices, the Iowa Farmers Market Association, and Eat Greater Des Moines. These groups will benefit by having documentation of the growth and economic importance of specialty crops and be able to justify requests for additional resources.

1000 to 1500 specialty crop producers in the state should benefit. A minimum of nine statewide support organizations will benefit as well as the state's 150 legislators and the Governor of the state. The results will be used to foster economic growth of the industry in the state: \$48 million in direct sales with an additional \$32 million in value-added commerce is estimated for the industry in Iowa in 2015 alone.

LESSONS LEARNED

Lessons learned included the positive synergy created by a steering committee composed of members from various stakeholder groups. Input from groups that attending even one steering committee meeting was of great value to regular attendees.

In-kind contributions were invaluable to the success and reduction of monetary expenses. This included finding university staff interested in providing in-kind input and analyses for the economic impact portion of the survey – and in-kind contributions for report findings write-up, editorial work, and design layout.

The steering committee cautions groups hoping to create and produce a similar survey in the state or region to keep the survey to a manageable size; the goal should be a balance of acquiring meaningful data without overwhelming the producers completing the survey.

CONTACT PERSON

- Name the Contact Person for the Project: Paul Ovrom
- Telephone Number : 515-242-6239
- Email Address: paul.ovrom@iowaagriculture.gov

ADDITIONAL INFORMATION

See <http://www.iowaagriculture.gov/horticultureandFarmersMarket.asp> for survey results and appendices

PROJECT TITLE

- **Growing Awareness of Specialty Grape Crops in Iowa**

PROJECT SUMMARY

- Abstract: The specialty crop wine grape growers and wineries of Iowa are at a competitive disadvantage in the wine retail marketplace. Foremost amongst the challenges faced by the Iowa wine industry are well-funded marketing campaigns of national brand competitors largely from California that have immediate brand recognition (e.g., Cabernet Sauvignon or Chardonnay) and wine consumers are most familiar and who also tend to view other varietals as less desirable. Our goal is to turn this competitive disadvantage into a competitive advantage by building awareness of the wines grown in Iowa. Increasingly, the wines from Iowa are garnering national and international attention in wine competitions and the wine consuming public is beginning to take note. These new grape varietals grown in Iowa, such as Marquette, Frontenac, LaCrescent and Brianna are incredibly promising; however, Iowa grown grape varietals tend to lack name recognition and consequently wine consumers being unfamiliar tend to rely on familiar names and regions. This grant proposal sought to create a first-of-its-kind advertising campaign designed to introduce the wine consumers of Iowa to these new specialty crop grape varietals and the wineries of the Iowa Wine Trail
- Purpose/Importance: Iowa wine consumers are bombarded with national marketing efforts from the California and European wine conglomerates while local, Iowa native wine producers try independently to compete for wine buyer's attention with tiny marketing budgets. The Iowa wine industry, as a whole, contributes more than \$420 million to Iowa's economy (Source: The Economic Impact of Iowa Wine and Wine Grapes - 2012); however, reviewing per capita wine consumption by state places Iowa eight from the bottom at 4.7 liters or 6 bottles per year (Source: Beverage Information Group, 2013). Together the eleven Iowa Wine Trail member wineries, working jointly as a nonprofit organization, partnered with a production and marketing company and created an advertising campaign of locally produced, high quality commercials for on-air (e.g., cable television advertisements) and Internet (e.g., social media and YouTube) use. The Iowa Wine Trail utilized these grant funds to create compelling video advertisements about the Iowa Wine Trail's usage of specialty crops (cold-hardy grapes) that are grown and used in the production of native Iowa wines. Advertising campaign utilized traditional (i.e., television/cable commercial spots) and new media (i.e., social media advertisements and creation of YouTube channel) to reach target audience.

- Impact: This project had the potential to impact many of the independent wine growers of Iowa (approximately 316 vineyards, totally more than 1,200 acres) and the eleven Iowa Wine Trail wineries (most of who grow and also purchase Iowa grapes). The Midwest Grape and Wine Industry Institute, based at Iowa State University, commissioned a study that found Iowa’s wine industry contributed over \$420 million dollars to Iowa’s economy in 2012. This finding nearly doubles the previous study from 2008. In addition, over 2,600 people are employed within the industry and the industry attracts over 350,000 visitors annually. Despite the absence of specialty crop marketing for Iowa wine grapes and the highly competitive market space in which Iowa vineyards and wineries operate the industry has experienced much success. This grant provided the opportunity to conduct a compelling advertising campaign designed to familiarize wine consumers and tourists with the names and varietal characteristics of wine grapes grown in Iowa. The impact of the campaign will be to increase familiarity, influence purchase decisions, and increase winery tourism all of which will result in higher demand for these specialty crops.

PROJECT APPROACH

- The work flow (as listed in the Work Plan, below) as presented in the initial proposal was accomplished on-time and on budget. The grant coordination with the Iowa Wine Trail President, Marketing Steering Committee and Marketing Consultant; and Video Production Company as well as regional broadcasters was smooth and efficient. The goals and outcomes, in all measures, met expectation (see goals and outcomes achieved).

Project Activity	Who	Timeline
Assemble steering committee to provide direction for project	Iowa Wine Trail winery volunteers, Marketing Consultant	Begin January 2016 0-2 months
Coordinate with film production company	Film production company, marketing consultant	3+ (throughout production)
Film productions begins	Film production company, marketing consultant	3-10 months
Film post-production editing commences	Film production company, marketing consultant	11-13 months
Review initial film products with steering committee	Steering committee volunteers, film production company, marketing consultant	13-14 months
Begin advertising discussions with cable and broadcast companies - in preparation for media buy.	Media companies and marketing consultant	13 months (and every other month once spots are live).

Final review of film products	Steering committee volunteers, film production company, and marketing consultant	14 months (March, 2016)
Benchmark Data: collect benchmark data in advance of campaign launch	Marketing consultant	14 months
Launch advertising campaign	Marketing consultant and Media company	14 months (March 2016)
Review benchmark data with current data	Marketing consultant	15 months and monthly throughout grant project
Conclude advertising campaign	Iowa Wine Trail steering committee, Marketing consultant	22 months (December 2017).

- All members of the grant team contributed as expected.
- Significant Results and Accomplishments: There are several significant results which occurred as a result of receiving this grant in both qualitative and quantitative respects. Quantitatively, the results clearly indicate an increased awareness of the specialty crops (i.e., Iowa wine grapes; and as expanded upon in the Goals and Outcomes Achieved section) which has exceeded our hopes and expectations during the grant process, and continues to resonate in terms of increased visitorship to Iowa Wine Trail wineries, increased viewership of produced promotional videos, and increased traffic to the organization website and social media channels. Each established goal was exceeded during the grant period; moreover, the Iowa Wine Trail member wineries and grape farmers benefited from the increased awareness of the specialty crops as evidenced, not only quantitatively, but qualitatively when visitors ask about a specific Iowa grown wine grape (e.g., asking for Frontenac or Brianna) when, for example, in the past visitors would ask simply for a red wine similar to an old world grape, such as Cabernet Sauvignon. It's a subtle but important qualitative change and a meaningful step toward building a brand identity for Iowa grapes and wine.
- Conclusions and Recommendations (including favorable or unusual developments): The overwhelming conclusion is this grant funding significantly exceeded goal and outcome expectations. There continues to exist a competitive disadvantage for many specialty crop (Iowa wine grape), farmers due in part to lack of awareness, market saturation of Old World and California wine grapes backed by their marketing interests, and complex consumer behavioral tendencies. This grant funding provided an opportunity to expose consumers to new specialty crops (i.e., Iowa wine grapes), their names and story, in an effort to begin to shift awareness and consumer preferences towards local grapes and wine. To that end this grant was an important first step in that process. Many wine consumers are slow to accept alternatives to Old World wine grape varieties, such as Cabernet Sauvignon, Merlot, Chardonnay, even within the Vitis

Vinifera traditional wine grape family. For example, some wine consumers are loathe to sample, appreciate or consume wines from more notable but less familiar wine grapes, such as Tempranillo, Grenache, and Pinot Gris, despite the fact they have world-wide name recognition. Consequently, given the reticence of some wine consumers to try other grape varieties this grant is an important first step in building awareness and familiarity of non-Vinifera grapes grown in Iowa. Recommendation: This grant laid the foundation for what needs to be a more comprehensive and larger promotional campaign, with a regional emphasis, to build consumer awareness of non-Vinifera grapes, specialty crops, that are increasingly being grown in places like Iowa, Wisconsin, Minnesota, Michigan, Illinois, Kansas, Missouri and Ohio – in essence a large marketing campaign to help boost awareness, consumer acceptance, and marketplace desire for Cold-Climate Grapes grown in the United States.

- Significant Contributions by Project Partners: The Steering Committee led by then Iowa Wine Trail President, Christie Steffen, was crucial in the planning, execution, reporting and evaluation of the grant process. The Iowa Wine Trail member wineries and vineyards are a diverse group of independent farmers who farm and craft local wines in Iowa separated geographically on the eastern side of Iowa. Each winery and vineyard contributed to the development of the project by offering perspective, input, filming locations and product for photography and filming. The Marketing consultant working under the direction of the Steering Committee coordinated the workflow, filming, marketing and media efforts, and grant reporting. This particular organizational arrangement worked well logistically and practically in terms of the overall scope of the project.

GOALS AND OUTCOMES ACHIEVED

- Overview: To create an advertising campaign to increase awareness of specialty crops (i.e., Iowa wine grapes) and increase visitation to Iowa Wine Trail wineries with three primary goals. Stated goals and outcomes are presented below:
- Goal #1a 1b: increase visits to spring and fall Iowa Wine Trail events by 10% over the current average spring weekend event attendance of 91 and average fall weekend event attendance of 156 by measuring attendance against benchmark.
 - Outcome: Goal: 1a - Increase visits to Spring Iowa Wine Trail Event by 10%. Goal exceeded from 91 to 311 representing an increase of 241%
 - Outcome: Goal: 1b - Increase visits to Fall Iowa Wine Trail Event by 10%. Goal exceeded from 156 to 427 representing an increase of 173%
- Goal #2a 2b 2c: 2a increase internet traffic to website by 25% over the course of one year from the establishing a current base and then measuring website visits each month over the next year. 2b. increase social media traffic to Facebook page (measured by number of likes) by 15% over the course of one year from the current number of likes

(1,459) by recording Facebook likes each month over the next year. 2c. establish YouTube channel and increase the number of views of each produced video by 10% each month over the course of one year.

- Outcome: Goal: 2a (Website) increase traffic (users) to website by 25% over one year. Goal exceeded from 651 to 9,656 representing an increase of 1,383%.
 - Outcome: Goal 2b (Facebook) increase traffic measured in “likes” to Facebook page by 15% over year. Goal exceeded from 1,459 to 3,953 representing an increase of 170%.
 - Outcome: Goal 2c (YouTube) establish and increase traffic (views) to channel by 10% per month over year. Established channel on YouTube March 2017. Goal reached and exceeded. Launched 6 videos. 1,428 views 100%+
 - Outcome: Goal 2c (Facebook) increase traffic (views) to channel by 10% per month over year. Established videos on Facebook March 2017. Goal reached and exceeded achieved. Launched 6 videos. 14,161 views 100%+
- Goal #3 - increase consumer awareness of specialty grape crop (and the wine producers of the Iowa Wine Trail) by advertising 30 second spots on local television and/or cable. Reach an estimated 16,190 households each year, measured monthly through data provided by broadcast provider (e.g., cable or television company) over the course of one year.
- Outcome: Goal 3: increase consumer awareness of specialty grape crop by advertising 30-second spots on cable television. (6, 30s video spots broadcast (Mar-Dec, 2017) on Iowa Cable Advertising Network (multiple cable companies): Bravo, A&E, History, and Hallmark for a total of 2,000 spots over 9 months to 16,190 households. Outcome achieved.
 - Outcome: Goal 3a: increase consumer awareness of specialty grape crop by advertising 30-second spots on local broadcast television. (6, 30s video spots broadcast (April & Oct, 2017) on broadcast television (station KWWL) for a total of 130 spots over 4 weeks to 341,960 households.) 341,960 households, 130 spots broadcast prior to Spring and Fall Iowa Wine Trail event months. Achieved outcome.
 - Outcome: Goal 3a*: increase consumer awareness of specialty grape crop by advertising 30-second spots on cable television (OnMedia). (These spots were not a part of the USDA Grant but were included to show additional reach of campaign. Two, 30s video spots (modified with fall event crawl) broadcast in advance of Fall wine trail event (Nov. 4-5) with OnMedia: Food, Hallmark, and Lifetime channels for a total of 79 spots for two weeks to 19,900 households. (*paid for by The Iowa Wine Trail).

BENEFICIARIES

- ❑ The eleven member wineries of the Iowa Wine Trail: Brick Arch Winery (West Branch), Daly Creek Winery (Anamosa), Eagles Landing Winery and Vineyard (Marquette), Empty Nest Winery (Waukon), Engelbrecht Family Winery (Fredericksburg), Park Farm Winery (Bankston), PromiseLand Winery (Guttenberg), Tabor Home Winery (Baldwin), TYCOGA Winery and Vineyard (DeWitt), Wide River Winery (Clinton), and Winneshiek Wildberry Winery (Decorah) participated and benefited from this project.
- ❑ Clearly the eleven member wineries of the Iowa Wine Trail were the primary and direct beneficiaries of this grant; however, the reach of this campaign provided additional benefit to other regional wineries and vineyard operators that grow and produce wines from these cold-hardy grapes. Because of the nature of digital media and the far-reaching capacity of messages to reach consumers across the state, nation and around the world the videos continue to be viewed and will remain on YouTube and Facebook for years to come. While our grant did not specifically measure economic impact the outcomes may serve as a proxy to indicate a substantial economic impact was achieved through increased winery visitor traffic and the associated travel/tourism economic benefit of those travelers throughout eastern Iowa.

LESSONS LEARNED

- ❑ Lesson Learned #1: Probably one of the most significant lessons learned came from the missed opportunity of not creating more powerful outcome measures at each individual winery. While our outcome measures accurately capture views and engagement online, number of visitors to wineries during event weekends we did not actively assess each individual visitor to ascertain whether visitors had seen our videos or if they now had a better understanding of the cold-hardy grapes the wineries grow and use to make wine.
- ❑ Lesson Learned #2: The need for these types of informative and educational videos to introduce the wine consuming public to new, regional grapes isn't limited to eastern Iowa. In fact, this type of video, created more broadly could serve many wine regions in the United States. The competition for wine consumers is keen and smaller, less well-known wine areas could benefit from a nationally developed promotional campaign.

CONTACT PERSON

- ❑ Christie Steffen, Park Farm Winery (Iowa Wine Trail, past President)
 - Telephone Number: (563) 557-3727
 - Email Address: christiemsteffen@gmail.com

ADDITIONAL INFORMATION

- ❑ **Produced Videos:**
Brianna: <https://youtu.be/FwnsfZJTjG4>

La Crosse: <https://youtu.be/6cDiqCep0hs>

La Crescent: <https://youtu.be/FYVEs0tqS-Y>

Marechal Foch: <https://youtu.be/SW0cauO3Lxc>

Frontenac: <https://youtu.be/eaJcZZXberA>

Marquette: <https://youtu.be/4hs8UWN8yWo>

Incubating Refugee Specialty Crop Producers

Lutheran Services in Iowa: Global Greens

Project Summary:

Many of the most recent arriving refugee groups in Des Moines come from agricultural backgrounds. Farming, both for home consumption and for profit, has been for many, a way of life. Several refugee groups have



Farmers enjoy a PFI Field Day in Decorah, IA

expressed a deep desire to return to the land in order to provide food for themselves, maintain their culture, and create new forms of income, however, they are faced with challenges in accessing land and training resources due to the language and cultural barriers as well as a lack of resources.

Over the last 6 years LSI has worked with a wide array of community partners, volunteers, and individuals

from the refugee community to help that desire become a reality. The support for this project is important and

timely as it supported farmers and the Global Greens Program in a critical stage of growth and transition. LSI's program supports farmers for 3-5 years on the incubator training farm site. This project has allowed LSI to complete a full cycle of three years of training with this beginning group.

LSI has been able to continue the growth of this project through the following projects funded through the IDALS Specialty Crop Block Program:

- **2012:** "Increasing Fruit and Vegetable Production by Refugee Groups through Land Access and Grower Education": This project assisted interested gardeners in connecting to existing community garden plots, the translation of community garden contracts and the establishment of one new community garden. During this project, Global Greens was able to secure land for the Global Greens Training Farm, 21 growers began growing on 50x50 ft. plots at the training farm and attended trainings on growing food in Iowa.
- **2013:** The project "Increasing Iowa Specialty Crop Production and Consumption through Empowerment of Refugee Producers" provided an initial year of intensive training to the eight Advanced Market Farmers (AMF) who were accepted into the business development phase of the program. These trainings primarily focused on specialty crop production including: Seeds and Seed Saving, Production Basics, Record Keeping and Finances, Seedlings and Crop Planning and Soil Science and Fertility. Benchmarks were also established on market sales for each grower.
- **2014:** "Investing in Refugee Specialty Crop Producers": This project built upon the previous year's trainings by developing a second year of training and technical assistance to the eight AMFs engaged in the incubator training farm program.

The current project provided the third year of training and technical assistance to the eight AMFs. This included 13 classroom workshops and three farm visits over the course of the year. The current project also worked to ready growers for the transition phase of the project through the identification of new land opportunities for growers and beginning transition plans for the 2017 season.

Project Approach/Goals and Outcomes Achieved

Several methods were implemented to achieve the goal of this project, which was, “Refugee market farmers will increase the availability of specialty crops to the general public and low-income children and families through local marketing of produce.” First, LSI reviewed end of season evaluations and conversations with farmers from October/November of 2015 to inform a series of 13 workshops throughout the project period. Five of these workshops were specifically focused on market development. These workshops included:

- The Des Moines Downtown Winter Market
- Farmers Market Nutrition Program Certification Training (including WIC and Senior Market vouchers)
- SNAP/EBT machine training
- Farmers’ Market Booth Visuals
- Strategies for the Des Moines Downtown Farmers Market.

These training opportunities were open to both Advanced and Beginning Market Farmers (BMF). Large group workshops averaged 30 farmers in attendance. Eight farmers also attended the Minnesota Immigrant and Minority Farming Conference. LSI offered four options for Practical Farmers of Iowa (PFI) Field Days, however, farmers only attended three of the field days offered. In early August, two farmers attended a Field Day with Lacewing Acres in Ames, IA. Later in August, two farmers visited One Step at a Time Gardens in Kanawha, learning about the research they have been doing on their farm, including enhancing their pollinator population. Seven farmers attended a field day on harvest efficiency and pack house models in Decorah, IA. After the field day farmers were also able to visit Seed Savers Exchange, also located in Decorah, where many heirloom, and hard to find plant varieties are grown. Some of the farmers’ native crops were being grown there and farmers were interested to source more seeds from Seed Savers Exchange in the future.

In order to reach the goal of **Performance Measure #1**, in which 80% of market farmers would increase sales of specialty crops from the 2015 to 2016 growing seasons, staff worked with the LSI Marketing and Communications team to create a robust marketing plan for the LSI Global Greens Farmers’ Market to become more well known within the community. **Performance Measure #1** also focused on the amount of produce sold at local markets to the general public as well as recipients of Supplemental Nutrition Assistance Program (SNAP), Women, Infants and Children (WIC), and the Senior Farmer’s Market Nutrition Program (FMNP). LSI created marketing materials and increased its social media presence including increased awareness of the market’s ability to accept SNAP as well as WIC and Senior Market FMNP vouchers. Additionally, the LSI market was one of six markets who participated in a pilot of the Double Up Food Bucks (DUF) program, implemented by the Iowa Healthiest State Initiative. This program was based off of the Fair Food Network out of Michigan in which SNAP users can double their money, up to \$10 each week, if that money is spent on fresh fruits and vegetables grown by local farmers. Beginning July 2, LSI implemented a token system at the market so that customers could use their SNAP card and receive both SNAP and DUF tokens that could be spent at market. In 2016, through the SNAP and DUF programs farmers redeemed a total of \$8,292, with an average



LSI Farmers' Market Poster

transaction of \$31.01. This was a 296% increase from 2015 in which farmers sold \$2,094 in SNAP sales. LSI staff do not yet have 2016 totals for WIC and Senior Market vouchers.

Overall, farmer income increased by 33% from 2015 to 2016 however, two farmers have not yet reported all their income to LSI for the 2016 season.

- **2015:** \$41,402
- **2016:** \$55,185

The chart below shows 2016 income totals at the various market outlets offered through the Global Greens Program:

Cash Flow	May	June	July	Aug	Sep	Oct	Nov	Total
Valley Farm Stand	69.00	300.00	360.00	305.00	177.00	120.00	-	1,331.00
Home sales	190.00	662.00	1,013.00	690.00	642.00	280.00	-	3,477.00
Farmer Market	200.00	1,724.00	1,870.00	2,338.00	1,889.00	862.00	-	8,883.00
Wholesale	-	307.40	590.29	277.19	455.35	25.00	-	1,655.23
Iowa Food Coop	667.50	2,765.50	2,127.00	1,330.25	1,397.25	987.25	869.50	10,144.25
LSI market	1,006.00	1,663.00	5,930.00	6,393.00	5,681.00	3,678.00	-	24,351.00
CSA	-	1,176.00	897.25	1,572.53	1,298.28	399.25	-	5,343.31
Total Income	\$2,132	\$8,598	\$12,787	\$12,906	\$11,540	\$6,351	\$869	\$55,185

During the 2016 season, only 63% of farmers (5 out of 8 farmers) increased their income from sales of specialty crops, this was less than the projected 80% in the project proposal. One farmer shows a decrease in income from the data LSI currently has but staff are meeting with the farmer in early December to gather final data, this farmer is very likely to show an increase. Two farmers had significant life events that caused their businesses to decline for this season. One farmer lost her drivers license and had personal and financial issues that made it very difficult to focus on her farm business this season. Another farmer passed away this summer and while the family farms together as a unit it was very difficult to keep up on their plot and markets due to this loss. In 2016, two farmers showed a significant increase in sales with one farmer moving from \$5,442 (2015) to \$18,331 (2016) and another farmer from \$8,422 (2015) to \$12,865 (2016). Both farmers actively took advantage of the DUFB program, the Downtown Farmers Market and the LSI CSA.

Performance Measure #2 focused on farmers gaining independence in managing their own markets. LSI's goal was to have each AMF participant manage at least one of their own markets by the conclusion of this grant period. Seven of the Eight AMFs achieved this goal. The table below lists the various markets that farmers have gained independence in operating during the last year.

Market Type	Number of Farmers operating this market independently in Nov. 2015	Number of Farmers operating this market independently in Oct. 2016
Iowa Food Cooperative	0	2
Des Moines Downtown Farmers' Market	0	2
LSI Global Greens Farmers' Market (AMF & BMF)	3	11
Wholesale Markets (Grounds for Celebration)	0	1
Other farmers' markets/farm stands	0	3

Of the eight Advanced Market Farmers:

- Two farmers are currently managing **one** of their markets independently
- Three farmers are currently managing **two** of their markets independently
- One farmer is currently managing **three** of their markets independently
- One farmer is currently managing **four** of their markets independently
- One farmer is not managing any of their markets independently. This was the result of this farmer losing her driver's license over the past year. At the time of this report she has passed her test for a second time but not having her license during the market season made it very difficult for her to gain independence in her markets.

An additional step towards independence came through the availability of a grant through the Farmers Market Coalition through which nine farmers (AMFs & BMFs) were able to obtain their own SNAP/EBT machine. This enabled farmers to have credit, debit and EBT available at multiple markets. While these machines can be used at multiple markets some farmers who do not attend other markets outside of LSI were not able to take advantage of these machines with the centralized terminal model used for the DUFEB program at the LSI market. LSI and the DUFEB program staff are exploring an individual terminal model for the DUFEB program so these machines may be able to be more fully utilized in years to come depending on this program.

During the growing season both the Farm Associate and Farm Marketing Specialist were on-site at Global Greens Farm for at least two half-days each week and were able to provide individualized training, troubleshooting and technical assistance to growers. This was mainly done on Tuesdays, (CSA aggregation days), Thursdays, (Iowa Food Coop days) and Fridays, (harvest days for weekend markets). Both staff had formal and informal conversations with farmers about their transition plans through field walks in farmers' plots and one-on-one meetings with farmers in the office. **Performance Measure #3** measured the number of farmers who have documented their activities and timelines associated with moving their farming business off of the Global Greens Farm and onto another piece of land where they will continue to operate their business independently. At the beginning of this project period, no farmers had a formal transition plan. Plans have been created with six of the eight farmers. The farmer mentioned above who struggled this season personally and financially will be spending an additional year on the incubator farm, possibly on a smaller size, while the eighth farmer is only in her second year of the Global Greens program (due to a farmer dropping out of the program in 2014) however, she has already started her business plan and conversations have begun about land possibilities for her in 2018. These plans were completed through one-on-one meetings working on business plans with the Farm Marketing

Specialist. A complete business plan is one aspect of the two year Savings Incentive Program (SIP) through PFI in which farmers attend field days, meet with a farm mentor, and save monthly in order to receive a savings match, up to \$2,400, at the end of two years. Two farmers completed their business plans in January of 2016 while four additional farmers are completing their business plans by the end of 2016.

Over the project period, LSI was able to secure two new transition sites for three Advanced Market Farmers (AMFs) to start on in 2017. One large site is located in Altoona, about 15 minutes from Des Moines. The family has over 60 acres available to farm. In 2017, one farmer will be on their land to see how things go however, there is potential to add other graduates in future years. LSI also partnered with Des Moines Water Works to find 1 acre of land within Des Moines for two AMFs who are interested in farming together, this includes the farmer who is only in her second year of the program. The other three AMFs accessed land at the two satellite sites during the 2016 season. Two farmers shared land in Van Meter with about 1.5 acres each while another farmer grew on 2 acres in Carlisle. All three farmers still had a ¼ acre at the Global Greens farm, however this was their final year to farm that land. One of the families who was accessing land in Van Meter felt that it was too far for them to drive (about a 30 minutes drive, one way) with both of their work schedules and young children's school schedules. LSI is continuing to look for a plot that would work for them and their family.



The full scope of this project focused solely on the enhancement and competitiveness of specialty crops as Global Greens farmers do not grow any non-specialty crops on their land.

Key project partners are included below:

Valley Church – Provided 6.5 acres of land for the incubator farm. This also included access to a shared-use barn for equipment storage and two walk-in coolers.

Practical Farmers of Iowa (PFI) – PFI is a farm-membership organization that provides networking, research, and support to sustainable farmers across Iowa. They also support beginning farmers through a matched savings and mentorship program called Savings Incentive Program (SIP) and offer field days throughout the season to share information amongst farmers. Growers in LSI's program participated in field days, and webinars. Five participants in LSI's program are also enrolled in PFI's Savings Incentive Program (SIP) while two participants graduated during the reporting period.

Iowa Food Cooperative – IFC is an on-line farmers' market who not only provide a consistent market outlet for farmers, but have partnered with LSI on events and promotion of the Global Greens farmers market by telling the program's story to their customers. The IFC has many connections in local food and farming in the Des Moines and surrounding areas which they are free to share in order to advocate for farmers' success.

The Global Greens Advisory Board – The advisory board is made up of 16 volunteers who attend two meetings a year to learn about program updates, troubleshoot issues and advise in program development. The board is made up of land owners, small farmers, local food system representatives, PFI and Leopold Center staff and land developers.

Leopold Center for Sustainable Agriculture – In addition to providing funding for the program, Leopold has also provided technical support and consulting for program development in the areas of learning objectives and farmer assessments.

Iowa Healthiest State Initiative – The IHSI administered and oversaw the pilot year of the Double Up Food Bucks program at 6 markets across Iowa, including the LSI Global Greens Farmers’ Market. IHSI will continue to take the lead on additional funding to continue the program in the coming season.

Beneficiaries:

The primary beneficiaries of this project were the 25 farming families participating in markets and trainings through Global Greens.

Secondary beneficiaries included customers receiving greater access to specialty crops, this included 18 CSA members, over 1,000 members purchasing produce on the Iowa Food Coop, customers at various farm stands and smaller markets in Des Moines, Grounds for Celebrations customers (wholesale), the 125 average attendees of the LSI Global Greens Farmers’ Market and the 20-40,000 customers visiting the Des Moines Downtown Farmers’ Market. This project also specifically benefited customers who used WIC and Senior Market vouchers and those who took advantage of the DUFEB match for their SNAP dollars at the LSI market.



Lessons Learned:

LSI has continued to learn that varying levels of English and education provide limitations in the efficiency with which progress can be made. Many aspects of business development such as record keeping and writing a business plan are completely new concepts for many farmers so these types of endeavors are very time intensive. This is a concern for transitioning farmers off of the incubator site and looking to farmers to take over more of their markets. When English is a limiting factor farmers must rely on staff or family members to assist with some of the administrative parts of their business. LSI is working to train family members on some of these aspects such as the Iowa Food Coop or applications for farmers’ markets however, in some cases it is difficult to identify someone who can fulfill this role, and farmers are unable to continue in those markets. LSI is looking at being more selective in who can enroll in certain market opportunities, especially those with more intensive administrative pieces. This demonstrated how essential family supports are in any individual’s success, especially so with farmers with limited English. Over the project period, as was mentioned above, one farmer struggled quite a bit to keep her business going because of financial and personal issues. Some of the larger farming families have more cushion for these types of set backs however, people do not have the same net of support. LSI has worked to meet with families as a group in order to really get to know all the members who are involved in making the business work. However, this can be really difficult with so many schedules and some family members may not be as committed to the business but help out their family member as needed.

Overall, staff have found that group trainings during the season are not as well attended as desired and don’t teach to specific questions and challenges of each individual. Staff have moved to work more individually with farmers, especially during the season. Overall, staff combine large group, small group and one-on-one styles of training for off-season workshops. For examples, some financial trainings have been divided up into two

separate groups since some farmers are looking at loans and more major purchases while others are still working on basic record keeping.

While staff are excited to see farmers gaining access to more land off the incubator site, each farmer transition requires a significant amount of staff time to set up. Language and cultural barriers still present obstacles for farmers and landowners and this takes some level of staff involvement. Staff are also continuing to work with farmers on where to purchase items and how to build infrastructure such as coolers and fencing.

The land sites that have been found so far are a step in the right direction however, these operations still need to be at a large enough scale to be profitable and require a baseline of infrastructure. LSI now has a better grasp on what to look for and what a site transition will require of staff and farmers however, a larger farm hub where farmers could rent these larger parcels would create a simpler transition model and would reduce infrastructure costs to each participant. For this reason, LSI is still looking to find a larger site that could be a larger scale incubator training farm.

Additionally, these current leases are short term and both parties are feeling out the relationship to see if it is a good, long term fit. The first land owner LSI worked with in 2015 ended up deciding to sell their land which quickly changed the course for the two farming families on that land. Without long term leases or more autonomy over the land farmers and the LSI program will always be subject to sudden changes outside of their control. This also makes it difficult to know when it is appropriate and sensible to invest in infrastructure and long term conservation practices.

Along with an increase in land size for the training farm LSI is also considering the long term marketing options for farmers. LSI realizes that the CSA will be the first step in creating a possible long term sales mechanism that could be available to farmers beyond the training farm stage. Staff will continue to research sales models of other programs and work to understand the appropriate funding and program income that will need to accompany a true food hub sales model. While the pilot year of the Global Greens CSA was successful, LSI is aware that there is much more development and expansion needed in order to meet the level of production currently at the farm, as well as the potential that is available as farmers expand onto more land. LSI is working to increase these options and have new funding to work on recruiting more CSA members and growing the LSI Farmers' Market, however, it looks as though larger wholesale accounts will be needed to meet the demand. Wholesale markets will require larger amounts of insurance, GAP (Good Agricultural Practices) certification and possibly organic certification. Yet, there are some concerns with these certifications on multiple transition sites with multiple farmers in order to ensure all regulations and agreements are being followed.



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Additional Information:

- Staff continued to send out the weekly e-newsletter, The Dirt, with event and program updates, a produce list of what to expect at market and a recipe. Links to past newsletters can be found here: <http://lsiowa.org/index.php/services/refugee/resources/>
- Global Greens received the Iowa Agriculture Leaders: Service Award in March of 2016. This award ceremony is hosted by Iowa Secretary of Agriculture, Bill Northey. For the event, LSI created the video below to tell the story of Global Greens and make a pitch for ways that others can support the program and be involved:
<https://www.youtube.com/watch?v=yxLLseSSKhM> or Youtube.com, “Get Involved with Global Greens”
- LSI and Namaste Gardens was highlighted by the local WHO Channel 13 news station with the following story: <http://whotv.com/2016/05/25/farm-allows-refugees-to-get-back-to-roots-while-growing-business/>



Iowa Department of Agriculture and Land Stewardship

**Specialty Crop Block Grant Program
Final Performance Report
15SCBGPIA0001
Tammy Stotts**

Project Title: Pick it, Wash it, Eat it

Project Summary: The Iowa Department of Agriculture and Land Stewardship's (IDALS) Farm to School Program received a tremendous boost through the approval of a USDA FNS Farm to School Support Service Grant to create an Iowa Local Food Day project. This opportunity provided training for School Food Service Authorities on local food procurement, training workshop for growers and a promotional awareness campaign. The Local Food Day project offered support and assistance to schools wanting to procure local food for the first time. Participation required at least two dishes served to be comprised of primarily local ingredients. With the increased attention and support, many schools engaged in Farm to School for the first time.

The Pick it, Wash it, Eat it campaign paired with the Local Food Day by offering these new found schools supplies and resources to promote local foods. This grant did not build on previously funded projects.

Project Approach: A Local Iowa Food Team comprised of local food coordinators, school chefs, and specialty crop growers worked to identify local produce that could be sourced in large quantities, affordable and easy for food service to work with. Recipes were created using these items and the team worked with food hubs, attended School Nutrition Association Iowa's annual conference and trade shows and posted recipes on our website. In addition, one school did a trail of a black bean dish utilizing local black beans, peppers and onions. They had a school wide celebration and allowed kids the opportunity to vote on this new menu item. Other notable projects are highlighted below.

IDALS partnered with the Iowa Department of Education to offer a summer promotion to Summer Food Service Programs to launch an Iowa Farm to Summer campaign entitled "Root for Radish." Participating sites grew and purchased from local growers radishes to be served as part of a meal to students. This campaign included the following supplies:

Root for Radish Posters (to promote your site/events throughout your community)

- Large 3'x2' banner to promote your site
- Large "Fresh from the Garden" erasable poster boards
- I tried it stickers for students
- *Radish seeds to distribute to students (quantity may vary by site)
- *Farm Fresh Activity packets for students
- *Grow your own Seed Sheets

Taste Test opportunities were also provided to schools. Taste (test) the Difference with Iowa Farm to School offered schools the opportunity to apply for taste test supplies. Schools agreeing to procure local produce, watch or attend a local procurement training and participate in the Iowa Local Food Day event received "I tried it," "official taste tester" or "I  Local" along with a cart and a "Fresh from the Garden" dry erase board. Getting students to try a fruit or vegetable for the first time can be challenging, I tried it type stickers were purchased through this grant, offering students participating in the taste test events the chance to receive a sticker. Stickers serve as a fun encouragement to get students to try fruits and vegetables and also encourage other students to participate in the taste test. Stickers also serve as an opportunity for students to discuss the specialty crops they tried at school at home with their parents.

2019 Iowa Local Foods Calendar was created. This calendar featured some of Iowa's underrepresented specialty crops: Sweet Potatoes, Kale, Eggplant, Cabbage, Radishes, Broccoli, Watermelon, Blackberries, Black Beans and Squash. Each month featured a specialty crop along with a "Did You Know" fact, recipe and planting tips. These calendars were provided to schools with

Farmer Fairs, the Iowa Department of Public Health, and to promote local foods at conferences and trade shows.

Goals and Outcomes achieved: A goal of an 8% increase in specialty crop purchases was set. The Iowa Farm to School Local Purchase Report produced by USDA’s AMS manages this report. Produce reflected in this report is identified as local if grown within the state of Iowa or 30 miles surrounding our borders. Information is obtained voluntarily by schools and reported monthly. This total does not represent all school purchases.

Category	August 2017 Totals	August 2018 Totals	Approx. % of change
Fruit	56,399	70,163	+24%
Vegetables	78,453	80,515	+ 2%

The goal of this grant was to increase the sales of specialty crops being reported to AMS Iowa Farm to School Local Purchase Report by 8%. While the fruit sales exceeded this goal by 16%, the report of vegetable sales fell short of this goal.

Beneficiaries: Thousands of students and many specialty crop growers benefitted from the opportunities offered through this grant. Twenty schools were awarded Taste Test supplies, 15 Summer Feeding Service Sites sites were approved for “Root for Radish” In addition, brochures, posters and banners were created to increase awareness of the specialty crops being served in schools. Food hubs were offered books entitled Wholesale Success: A Farmers Guide to Food Safety, Post-Harvest Handling, Packaging and Selling Produce to provide to potential growers interested in selling produce to schools. The impact of these opportunities is on-going and hard to measure. The schools awarded taste test supplies were also required to view a webinar or attend training on Farm to School Procurement (of specialty crops) thus potentially benefitting the entire student population. The numbers below represent the number of students/growers directly impacted through this grant opportunity:

Event/Opportunity	# of students/growers offered
Root for Radish	1,150 students
Taste (test) the Difference with Iowa Farm to School	47,000 students
Food Hub Book Distribution	50 growers

Lessons Learned: It is difficult to determine the reason for the fluctuation of demand in the market at times. Schools have a fixed budget and the allocation for “local” produce is usually determined ahead of time. When comparing the products purchased in 2017 vs 2018, it appears there was a very large increase in apples by the pound. The price paid was lower in 2018 than reported in 2017. In 2018 the increase in onions and peppers was great while the decrease in sweet corn purchases was more drastic. Many possible factors that may have impacted the purchase trends included weather and a voluntary recall of local sweet corn in the fall of 2018.

The excitement and interest in Farm to School is at an all-time high. It is very difficult to balance the school interest with the availability of local produce. With the increase in interest of Farm to School, comes the need for more growers interested in working with schools. This process takes time. Grant opportunities such as this, create a lasting impact in marketing opportunities for specialty crop producers.

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Root for Radishes
Iowa Farm to Summer Campaign

“Root for Radishes” is a statewide effort to promote summer meal sites by celebrating local RADISHES as the raddest vegetable of the summer. And we think kids will think so, too! With a collective focus on this easy-to-grow, flavorful, local veggie, we hope to increase participation and retention of children at Iowa summer meal sites.

RAD-iculously TASTY!

Can I participate in the “Root for Radishes” Campaign?

Whether you’re a Summer Feeding Site Sponsor, community partner, local food advocate, farmer, volunteer, or teacher, you can support this farm to summer campaign. Participants are encouraged to create a promotional plan that highlights local radishes at Summer Feeding Sites, and includes educational activities with gardening, taste tests, cooking, or nutrition education. Here are a few ways *you* can Root for Radishes:

- Grow radishes in your school garden and harvest them in June with students
- Invite a farmer to visit your Summer Feeding Site and sample their farm-grown radishes
- Lead an outdoor cooking demo, preparing a simple radish snack, like this [Radish Salad](#)

What if I need support organizing my “Root for Radishes” plans?

Planning supplemental activities at a summer feeding site takes coordination and support, and we’ve got you covered! If you’re looking for additional funding or technical assistance to make your Farm to Summer plans come to life, [please complete this short online survey and needs assessment](#). We are offering \$150 **mini-grants** to 15 participating sponsors, for materials like local food, cooking supplies, stickers, and take-home incentives. Additionally, we can connect you to technical assistance with local sourcing, planning activities, leading education, and more.

Want to participate in the “Root for Radishes” Campaign?

Register by completing [this short survey](#) or contact Chelsea Krist, FoodCorps Iowa Fellow, at chelsea.krist@foodcorps.org.

