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Project 1

MN Specialty Crop Block Grant – Federal Fiscal Year 15

FINAL PERFORMANCE REPORT

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PROJECT TITLE

GAPS Workshops and Online Food Safety Education for Fruit and Vegetable Growers in Minnesota

PROJECT SUMMARY

A number of Minnesota fruit and vegetable growers identified the need to improve their GAPs knowledge and food safety practices, and identified a need to create written food safety plans to document these practices. Improved GAPs and adoption of food safety plans are critical to maintain the competitiveness of Minnesota's specialty crop industry and protect the food supply from unintended contamination.

Farmers in Minnesota grow most, if not all, of the top five high risk items implicated as sources of foodborne illness: leafy greens, tomatoes, cantaloupes, green onions, and berries. Sources of produce contamination are varied, and contamination can occur anywhere along the continuum, from pre-planting, to pre-harvest and storage, to post-harvest and storage, and to transportation and market.

While most farmers will never be asked to undergo a GAP audit process because they are too small to sell to large wholesalers or restaurant chains, a food safety plan is still a very important tool for their marketing and sales, improving efficiency and reducing spoilage and waste. Some local institutional buyers and food hubs are requiring their local food suppliers to have a documented food safety plan. A food safety plan can help growers market and promote their products and indicates to prospective buyers that they are serious about preventing microbial contamination.

Thirty-seven Minnesota farms had a USDA GAP audit in 2014: 21 potato farms, 1 tomato farm, 5 apple orchards and 10 mixed vegetable farms. According to the 2012 National Agricultural Statistical Survey data, 87% of farms in Minnesota selling produce for fresh market grow on fewer than 15 acres (NASS 2012).

At the time of the start of this proposal, FSMA and the Produce Safety Rule were years away and many farmers did not yet realize how those rules would affect their produce growing operations.

Building off previously funded Specialty Crop Block Grant project: This work continues to build off a multi-year program which has developed to assist growers with GAPs on their farms via the on-farm

workshop model. The peer-to-peer model has resulted in at least 24 additional fruit and vegetable farms (with another 15 this summer) in Minnesota receiving in-depth GAPs TA from their peer farmers. Instead of recruiting more mentors in 2016-17, we determined that it would be best to use the Mentors trained during the summer of 2013 and 2015 to increase food safety knowledge among growers in the next phase. Thus, the mentors will be integrated into the next phase of the project including hiring them as speakers at shorter meetings around the state where GAPs information and training is requested. We will continue to improve and update our on-farm workshop model based on participant feedback and our evaluations. Growers consistently say that the on-farm model is the most useful to them, with a lot of small group work to address real-life concerns on the farm. We recognize and understand the barriers to finishing written food safety plans and have added an online group process component dedicated to assisting with completion of plans. Existing factsheets will be updated when the Produce Safety Rule is finalized and two new factsheets addressing current concerns and guidance will be created.

PROJECT APPROACH

Day-long, half-day, and mini workshops were held during this two year funded project (also includes a 6 month no-cost extension): Eleven day long workshops were held (n=206 attendees), and 17 short workshop sessions were held (n=424). Short sessions included webinars, food safety plan writing workshops, GAPs promotional presentations to stakeholder groups, and groups that didn't know they were stakeholder groups, e.g. garden managers, small institutional buyers, teen farm workers. A valuable outcome of this project was the development of new relationships with organizations that work with farmers -- the Good Acre food hub and the Aggregation Farmers Market project -- groups that requested GAPs workshops for their farmers. These groups did not have the capacity to offer a GAPs training, but had connections to the farmers who needed the information, and therefore greatly facilitated the organization and recruitment for the workshops.

This project developed educational materials to be used at GAPs workshops not only during the project period, but in future workshops. Two factsheets were developed that will help farmers understand GAP audits and the new FSMA Produce Safety Rule. We worked with a farmer and educator to create updated Food Safety Plan 4 U logsheets to be in compliance with the new FSMA Produce Safety Rule. We developed new activities and workshop curriculum to reflect new FSMA Produce Safety Rule standards and to meet the most current needs of specialty crop farmers in the state. We worked with a videographer to develop two Hmong language videos about farm food safety practices.

We anticipated working with mentor farmers to pay them to be mentors to other farmers, but farmers said that they didn't need one-on-one farmer to farmer time at their farms, and sometimes were hesitant to visit other farms to point out "weaknesses" the farms might have. Instead, we engaged mentor farmers as educators at workshops and conference presentations and field days at their farms. We paid mentor farmers a stipend to speak at a conference about how to prepare for a GAP audit and what it meant for their farm. We paid farmers to host the project team at their farm

to learn about their systems for recordkeeping for food safety, so that we could share their advice and experience with other farmers. We paid a farmer to host a field day for 20 other farmers who came to learn about their approach to food safety on the farm, and how they successfully passed a GAP audit.

- Educational materials created.
 - Title: Navigating the USDA GAPs audit process
 - Title: FSMA and the Produce Safety Rule: Does the Rule Apply to Me? (complete, sent out for editing and review)
 - Four Newsletters for Member Update for Minnesota Grown at the MDA
 1. May 2017: Are you thinking of getting a GAP audit this year? (<https://minnesotagrown.com/thinking-getting-gap-audit-year/>)
 2. July 2017: Preparing for a USDA GAP food safety audit (<https://minnesotagrown.com/?s=Preparing+for+a+USDA+GAP+food+safety+audit>)
 3. Sept 2017: Upcoming FSMA and Farm Food Safety Training Options (<https://minnesotagrown.com/upcoming-fsma-and-farm-food-safety-training-options/>)
 4. December 2017: FSMA and the Produce Safety Rule: What you need to know and upcoming training opportunities (<https://minnesotagrown.com/fsma-and-the-produce-safety-rule-what-you-need-to-know-and-upcoming-training-opportunities/>)
 - Five Newsletters for Minnesota Fruit and Vegetable Growers Association (not all issues are online yet)
 1. February 2017: Are you thinking of getting a GAP audit this year? (http://www.mfvga.org/documents/filelibrary/Feb_2017_NL_Final_846523072527A.pdf)
 2. April 2017: Preparing for a USDA GAP food safety audit (http://www.mfvga.org/documents/filelibrary/April_May_FINAL_51817_A71B4B62EDC02.pdf)
 3. Sept 2017: Upcoming FSMA and GAPs Farm Food Safety Training Options
 4. May 2018: Caesar salad anyone? Romaine outbreak, FSMA and Farm Food Safety Updates (not avail online)
 5. July 2018: FSMA Produce Safety Rule Updates (not avail online)
 - Two short videos in Hmong, on the UMN Extension YouTube Channel:
 1. Cleaning and Sanitizing Tools & Equipment (<https://www.youtube.com/watch?v=9hlaQcrMaA8>)
 2. Keep it Clean on the Farm: (https://www.youtube.com/watch?v=Y7_ZoV99qtY)
 - White paper developed *Information Needs Of Hmong-American Farmers: Survey Results* (will be submitted for publication to the Journal of Extension)
 - Updated logsheets for Food Safety Plan 4 U template. These logsheets reflect the current FSMA Produce Safety Rule standards including water testing, records, and

required signatures. (Available on Farm GAPS Education Program website, <http://safety.cfans.umn.edu/>)

- **Cornell Online Course**
Eleven farmers completed the Cornell online GAPs Course. A number of people were interested in taking the course but did not meet all the requirements for the scholarship: live in Minnesota and identify their occupation as farmer growing specialty crops.
- **Personalized Technical Assistance.**
We provided over 300 personalized technical assists. These technical assistance assists were critical for many farmers and included emails and phone calls asking about where to find water testing labs that to run the FSMA required water tests, where to buy testing strips for testing the PPMs of sanitizing solutions, what the FSMA produce safety rule will mean for their operation and when inspections will start, if their operation is covered by the rule, how the FSMA PSR differs from a GAP audit, review of written food safety plans, questions about situational scenarios, and a myriad of other topics and questions.

Many farms struggle with being able to dedicate enough time to understand the new FSMA rule, so having someone answer these questions is very beneficial and reduces their anxiety and confusion. The team also reviewed many food safety plans for farmers selling into accounts that require food safety plans, such as the Minneapolis Public Schools.

For example, an apple orchard contacted our program to get help preparing for a GAP audit. They want to sell their apples to a wholesale buyer who requires a GAP audit, but they have no experience creating a food safety plan or logsheets. We reviewed their food safety plan, made suggestions, and answered questions about logsheets to keep for the audit.

Another example is agricultural educators such as UMN Extension educators and non profit organizations that work with new and beginning farmers. These educators come to us with questions like “Is it OK for our farmers to eat at the stand at the farmers market?” or “A farmer I work with would like to build a handwashing stand, but the county is telling him he needs to put this water into a septic tank. Is this true?” We troubleshoot and offer suggestions and experience from helping other farmers through these issues.

Five Food Safety Plans and SOPs with immigrant farm families developed via a farmer to farmer consult and technical assistance

Schermann and Hultberg are responsible for the work of the project but rely heavily on partners and supporters:

--Cindy Tong is available to collaborate on the science of our work and be available for discussions about the details of the produce safety rule versions and how it will affect Minnesota specialty crop growers, specifically with water and soil amendment potential rule changes, packaging choices and pathogens, and overlapping concerns in food safety and post-harvest handling. Tong reviews all the fact sheets that Schermann and Hultberg create.

--Kathy Zeman from the Minnesota Farmers Market Association (MFMA) is our industry partner and helps with promotion of our workshops and materials and has become an advocate of farm food safety training for market managers to encourage for market vendors. Zeman is also a farmer and an active member of the Local Foods Advisory Group. She is well known around Minnesota and helps get our message out throughout her connections. Our relationship with Zeman has expanded to other members of MFMA and with MFMA we have expanded our partnership. Zeman was responsible for recruitment at many of the GAP workshops and field days, using her organizational ties and trust to encourage farmers to attend and promote to other industry groups.

--Peer Educator farmers were key partners in this project. A field day at one farm that recently got a GAP audit drew about 20 other farmers, and the farmer was able to talk through preparing for the GAP audit. Four different farms with different recordkeeping systems provided input and education to the project team about their food safety systems, so that the team could then share their systems and ideas with other farmers at workshops and include this information in the updated Food Safety Plan 4 U template.

--The Good Acre has developed to become an important partner, bringing deep ties and trust to the immigrant farming communities. The Good Acre acts as both an educator and a buyer, hosting educational GAPs workshops and providing recruitment, but also encouraging all farmers to develop farm food safety plans as a part of selling into their food hub. This dual approach is particularly effective and ensures farmers understand the importance of these topics and that buyers really care about food safety.

GOALS AND OUTCOMES ACHIEVED

Activity	Goal	Actual Measure
GAPs workshops	8 workshops, 160 fruit and vegetable growers.	<p>11 day long workshops were held (n=206 attendees), and 17 short workshop sessions were held (n=424).</p> <p><u>Day Long Workshops</u></p> <ol style="list-style-type: none"> 1. March 9, 2016, Second Harvest Heartland, Maplewood MN n=24 2. March 23, 2016, The Good Acre, Falcon Heights MN n=22 3. March 24, 2016, The Good Acre, Falcon Heights MN (Hmong farmers) n=18 4. April 6, 2016, Fresh Connect, Fergus Falls, MN n=17 5. February 2, 2017, UMN Extension, Long Prairie MN n=24 6. March 31, 2017, UROC, Minneapolis, MN n=22 7. October 17, 2017, Sprout Food Hub, Little Falls, MN n=17

8. February 13, 2018, St. Paul, MN, 6-hour GAPs training for small fruit and vegetable farmers and food safety plan preparation. N=15
9. March 3rd, 2018, Aitkin MN, 6-hour GAPs training for small fruit and vegetable farmers and food safety plan preparation 6-hour GAP training N=14
10. April 18, 2018, The Good Acre, St. Paul MN 6-hour GAPs training for small fruit and vegetable farmers and food safety plan preparation 6-hour GAP training N=14
11. May 4, 2018, Frogtown Farms, St. Paul, MN, 6 hour training and farm visit for small farmers N=19

Short Sessions

12. June 16, 2016, Featherstone Farm, Rushford MN, for seasonal Mexican workers) n=35
13. June 21, 2016, Minnesota Fresh Farm, East Bethel MN, for teenagers who work at produce farms) n=13
14. September, 12, 2016, Red Lake Reservation Food Group, n=10
15. June 13, 2017, Minnesota Fresh Farm, East Bethel MN, for teenagers who work at produce farms n=13
16. May 23, 2017, Minnesota Food Association, MN (Immigrant and traditionally underserved farmers) n=16
17. March 7, 2016, Minnesota Valley Action Council food hub, Mankato, Spoke to farmers and institutional buyers about food safety, n=60
18. March 14, 2016, College of St. Benedict, St. Joseph, Spoke to farmers and institutional buyers about food safety, n=80
19. May 18, 2016, Fergus Falls, Spoke to institutional buyers about food safety considerations when purchasing from local farms, n=22
20. May 26, 2016, Minnesota Food Association, MN (Immigrant and traditionally underserved farmers) n=16
21. Jan 19, 2017, MN Fruit and Veg Growers Annual Meeting – session about food safety, GAPs, and FSMA for specialty crop producers n=24
22. May 9, 2017, Food Safety in Aquaponics Systems, St. Paul, MN – Aquaponics Symposium, n=63
23. May 11, 2017, Farm to Institution Event, Buffalo, MN – session about FSMA, food safety and postharvest handling for specialty crop producers n=45
24. Oct 19th, 2017, Local Food Procurement webinar via Minnesota Department of Education, broadcast statewide- Presentation to school food service directors and managers who seek to procure local foods. Presentation on best practices and food safety on the farm. N=75.

		<p>25. Oct 26th, 2017, Food Access Summit, Duluth, MN - Presentation on farm food safety practices, FSMA, and best practices when working with local farmers. N=31</p> <p>26. May 23, 2018, Minnesota Food Association, Marine on St. Croix MN - 3 hour training for immigrant and underserved farmers (N=8)</p> <p>27. May 16, 2018, Urban Organics, St. Paul, MN. 1 hour GAPs training for aquaponics farm employees N=45</p> <p>28. June 12, 2018, Minnesota Fresh Farm, East Bethel, MN, 2-hour training, teen workers at fruit and vegetable farm, N= 15</p>
Technical assistance	25	300
Online food safety plan course	15	0
Mentor growers provide short GAPs presentations	6	Farmers spoke at MN Organics Conference, GAPs workshops and hosted on-farm field days to share their practices about how to implement GAPs in a cost-effective manner
Educational Materials	2 new factsheets to 350 people	<p>FMSA Produce Safety Rule: does the rule apply to me? http://safety.cfans.umn.edu/sites/g/files/pua3146/f/media/fsma_exemptions_summary_umn.pdf</p> <p>Navigating the USDA GAP Audit Process http://safety.dl.umn.edu/sites/g/files/pua3146/f/media/navigating_the_usda_gap_audit_process_0.pdf</p> <p>(The safety website gets a yearly monthly average of 294 user visits per month.)</p>
Cornell Online Course	20	Eleven farmers completed the Cornell Online GAPs course.
Extras - Bonus activities from no cost extension proposal		

Food Safety Plan farmer to farmer assistance		A farmer consultant was paid to assist 5 immigrant and minority farmers develop farm food safety plans and SOPs for a new collective farming venture and land acquisition. The farms were able to have a complete farm food safety plan and understand how to do things like get their well water tested and develop cleaning and sanitizing routines
White paper		Hultberg, A., & Xyooj, H. Information Needs Of Hmong-American Farmers: Survey Results. Manuscript developed for submission to Journal of Extension.
Videos		2 short Hmong-language food safety videos Cleaning and Sanitizing Tools & Equipment, Keep it Clean on the Farm, https://www.youtube.com/channel/UCAkZq_Q_zWKpaa-ib04akFQ?view_as=subscriber
Update farm food safety plan template to reflect FSMA rules		Logsheets and other narrative on the Food Safety Plan 4 U were updated to reflect current FSMA Produce Safety Rule standards by a consultant. http://safety.cfans.umn.edu/

Our primary goals were to help people learn about Good Agricultural Practices and implement practices on their farm. A secondary goal was to help people learn to write a food safety plan for their farm while recognizing that not all farmers embraced the need for the written plan. Therefore, our evaluation questions covered if they would implement changes on the farm, what changes they would make (qualitative answers because we couldn't make a multiple selection list as long as the changes farmers stated they would make), and if they were confident on their likelihood to write a food safety plan.

Of evaluations turned in, 75.6% of workshop attendees did not have a written food safety plan and 8.7% stated having an incomplete food safety plan. At the end of the workshop, 81.1% of attendees said they would create at least a basic beginning written food safety plan within the next year. Most encouraging result from the evaluations is that every person said they were likely to implement at least one change on their farm. Responses ranged from definitely likely (47.7%), most likely (43.9%), maybe likely (6.1%) and not likely (0.0%) to implement any food safety practices on their farm. Qualitative responses to what changes they would be likely to make were most often to include handwashing stations, provide worker training, create recordkeeping systems and logsheets, correctly use and test sanitizers in their wash water, clean and sanitize harvest and storage containers, and create a regular cleaning/tidying schedule for the farm and buildings.

While we didn't meet our goal of the number scholarships given to people to take the Cornell Online GAPs course, the people who took the course were more likely to be motivated to make changes because they had to commit to 24 hours of an online course. Feedback from three of the course attendees and how the course will help them improve their business included:

"As a result of taking this course, I am planning to improve a number of record keeping systems on our farm, especially in the postharvest realm (e.g. logs for equipment cleaning). We will also be paying closer attention to the impacts of wildlife intrusion on our crops as it impacts food safety. We'll be making pre-harvest checks for signs of wildlife droppings. I am hoping I can find the time to write my food safety plan and seek GAP certification this season. But if that proves infeasible, I'll shoot for 2019."

"There are several practices I plan to improve on our farm. The first couple of changes are based on what I learned about irrigation water from the online training. Our irrigation water is sourced from a well, so I am planning to send in water samples for microbial contamination testing at the beginning of the season (April) and again in July and September. One key thing I realized here is the importance of sampling irrigation water closest to the point of application to the crop, so we will sample from our sprinkler headers and not at the well head as we have done previously. Water Laboratories, Inc. is able to test water samples for E. coli and they are located close enough to the farm that we can deliver water samples directly by car. Since we irrigate mainly using top water and water may sit in our irrigation lines between waterings for a week or more, we will also implement a practice of flushing the lines to remove stagnant water from the lines before we allow irrigation water to touch our crops. Additionally, I created an SOP for washing and sanitizing our harvest bins, and based on feedback I received on that SOP, I plan to increase the frequency with which we wash and sanitize our bins to at least once/week. To make bin sanitizing more streamlined, we will have a space in our packshed set up with a designated bin scrub brush and dish soap near our spray tables so that every Friday we can scrub, rinse, and sanitize all of our harvest bins. Finally, when we apply raw manure from our chicken coop to fields, I will make sure that we cover crop those fields for the year and do not plant edible crops into them for a full year after raw manure application."

"This course helped me understand the importance of record keeping, even for a small operation like ours. For everything we do in the greenhouse, from the cleaning to the planting to the harvesting to the selling, each day to day function of our operation needs to be documented in case there is ever a crisis. A crisis can be an illness, or even failure of a pump. Each function needs a back-up plan and documentation. I've already started generating and implementing forms and standard operating procedures. These will help us be more organized, thorough and conscientious. It will also help us as we grow and introduce new employees to our operation.

Three new practices for 2018: Implement and maintain a 4-step cleaning process for lettuce harvesting (pre-harvest and post-harvest), Implement a traceability plan with lot identification, starting at the time of seed planting, and Generate Standard Operating Procedures (SOPs) for each function in the greenhouse"

BENEFICIARIES

The primary beneficiaries are specialty crop growers in Minnesota, who now have a greater understanding of on-farm food safety and are more likely to embrace food safety practices on the farm and have food safety plans which may bring them more markets and opportunities to sell their produce. As we worked particularly closely with food hubs to meet their needs and ability to purchase from specialty crop growers, food hubs and aggregators are another primary beneficiary. The total number of specialty crop farmers who benefitted from this project, through direct education and materials is 750.

Immigrant, minority and underserved farmer populations were helped via the farmer consultant who helped them develop and tailor their own farm food safety plans, as they collectively buy land and share a packshed. This allowed them to have complete, accurate farm food safety plans, which were a requirement of the land purchase and farmer co-op start up.

Other beneficiaries include buyers like food service personnel, restaurant and wholesale distributors who buy from these growers. Consumers like children and others populations who consume local food also benefit from food that is safer. Food produced to minimize microbial contamination decreases the public health risk of a foodborne illness outbreak.

Qualitative evaluation data was requested about course content as well as ideas for other workshops or workshop formats or locations. Again, comments were positive about the content and people suggested more on-farm workshops instead of classroom style or more classroom style instead of on-farm workshops. Practices that people said they would be implementing on their farm were mostly about sanitation, writing SOPs, and revising their washing practices.

LESSONS LEARNED

Partnerships with other organizations strengthened this project through combined resource sharing, networking, and farmer/participant recruitment to the world of Good Agricultural Practices. In particular, our relationships and resource base were broadened with Iowa State University and the NCR-FSMA Training Center, a partnership with The Good Acre Food Hub helped us reach immigrant and minority specialty crop growers and organic urban farmers, and the partnership with the Minnesota Department of Health and the Produce Safety Program let to collaboration in program development and long term strategic planning for the MDA program and the University of Minnesota Extension long term goals to support specialty crop growers.

An ongoing issue over this project period was the confusion about GAPs and how does it relate to FSMA, and that FSMA rules were implemented over different time periods and changed even when the rule was finalized (i.e. water testing). Growers were confused about what trainings they needed and did an in-person GAPs training fulfill the requirements of the FSMA training (no) and did the Cornell Online GAPS training fulfill the FSMA training requirements (no).

Online course--The objective was dropped because it was too difficult to find a platform that was free for farmer users and we learned that many farmers still have very slow Internet connections.

Additionally, the Produce Safety Alliance (PSA) is developing an online version of the FSMA Training Course, to be available in late 2018. This training will cover the FSMA and other regulations in a manner that is consistent with the FDA requirements, so it makes sense to wait until that resource is available and not duplicate efforts.

The Cornell Online course was more difficult to fill than we anticipated. Many people expressed interest but had reasons for not taking the course: they did not want to pay the course fee upfront and then be reimbursed by us when they successfully completed the course, they did not have time to complete the course in one month, or they didn't have good internet in their rural area. We declined scholarships for a number of people because they did not live in Minnesota, they were not specialty crop producers, they were employed by organizations that wanted to use this course and scholarship funds for their job training, or they were "interested in learning more and maybe starting a farm."

ADDITIONAL INFORMATION

N/A

Project 2

MN Specialty Crop Block Grant – Federal Fiscal Year 15

FINAL PERFORMANCE REPORT

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Organization: North Dakota State University / University of Minnesota

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PROJECT TITLE

Identify the Cause of Potato Emergence Disorder for Infested Fields in Minnesota

PROJECT SUMMARY

Plant-parasitic nematodes and plant-pathogenic fungi restrict potato production causing economic losses on potato when acting alone, but even more severe losses when interacting. A potato emergence disorder has been getting worse each year for some fresh market potato growers in Minnesota. They have experienced nearly 90% yield loss in some areas due to emergence disorder of potato plants over the past several years; less than 10% plants emerged in the infested fields. The affected plants were very small and the roots and lower stems had severe internal and external browning symptoms. Many soil and agronomic factors (soil pH, nutrient, herbicide, fertilizer, seed treatment) were examined but excluded as the reasons for causing this problem. From the preliminary tests we found that the fungal pathogen *Fusarium oxysporum* was present in many

samples from the infested fields and the root-lesion nematode *Pratylenchus penetrans* levels were very high. The overall purpose of this research project is to confirm the nematode and fungal species and to determine and prove whether the interaction between nematode and fungal pathogen causes this problem.

This is a spreading problem which is getting worse every year. Identifying the cause of this emerging problem is crucial to develop appropriate strategies for managing this problem. Therefore, during the first year we surveyed potato fields in that region and identified and confirmed the causal nematode and fungal species, and produced a large amount of pure nematode and fungal inoculum. As scheduled, we conducted two-year microplot trials with both artificial inoculation and naturally infested soil to determine the effects of infection from the nematode and fungal species.

PROJECT APPROACH

Day-Pathogen identification and inoculum preparation

- A total of 43 soil and root samples were collected from 11 fields. Root lesion nematode, *Pratylenchus* spp. were the most frequent with high densities.
- Root-lesion nematodes collected from the infested fields were confirmed as *Pratylenchus penetrans* using species-specific PCR.
- Identification of fungal pathogen to species level was done using molecular techniques and colony morphology characters and the *Fusarium* species from the infested fields was confirmed as *Fusarium oxysporum*.
- Nematode inoculum was prepared by rearing *P. penetrans* in sterilized carrot disks in laboratory conditions and also in susceptible potato cultivars in greenhouse conditions.
- *F. oxysporum* inoculum was provided by Dr. Gary Secor (Professor and Plant pathologist, NDSU) as fully infected barley seeds.

Microplot study

- Two micro-plot trials with terracotta clay pots were conducted during Mid-May to Mid-August of 2016 and 2017 in field conditions at the Sandplain Research Farm, Becker, Central Minnesota.
- Red potato cultivar, Red Norland was selected for the entire experiment based on their susceptibility to both pathogens.
- In first year, ten treatments including a non-inoculated control were selected while in second year three more treatment with very high pathogen levels were added.

- *P. penetrans* at 200 (low), 800 (medium), 2,000 (high) or 3,000 (very high) nematodes per 5 kg of soil and *F. oxysporum* at 5 (low), 10 (medium), 20 (high) or 30 (very high) colonized barley seeds per 5 kg soil were either inoculated individually or together at the same level.
- Stand-counting was done twice after planting. Sprinkle irrigation was done twice a week. Recommended dose of fertilizers per plant was put in split dose at the time of planting and 45 days after planting. Weeding of micro-plot was done manually for three times at different time periods depending upon weed growth. Plant height and plant health were measured after 12 weeks of planting. Experiments were terminated on 14th week after planting.

Data collection and analysis

- After harvest, nematodes were extracted from a sub-sample of 200 g soil from each individual pot, and also were extracted from root samples separately. Nematode numbers from both soil and roots were used to calculate the final population of *P. penetrans* reproduced in individual plant per pot. Roots and stems were dried before measuring dry weight while tubers were measured as fresh tuber weights.
- Analysis on different parameters (emergence, plant height, dry root weight, dry stem weight, yield, plant health, nematode reproductive factor) among treatments were performed using the computer program PROC GLM of SAS 9.4.

Dr. Guiping Yan has been overseeing the greenhouse and field studies with nematodes. Dr. Secor has assisted with the fungal inoculum. Dr. Robinson has been helping to identify grower fields for sampling. These roles stayed consistent during the project.

GOALS AND OUTCOMES ACHIEVED

The activities to achieve the goals include field sampling, nematode extraction from soil and roots, nematode identification and quantification, micro-plot establishment, pathogen identification, inoculum preparation, tuber preparation for planting, experimental design and layout, pathogen inoculation, irrigation, fertilization, weeding, harvesting, emergence evaluation, disease rating, plant parameter and tuber yield measurements, and data analysis. Two manuscripts are in the process of being finalized and will be submitted to peer-reviewed journals.

Actual accomplishments	Goals
Forty three soil and root samples were collected from 11 problematic fields. Root-lesion nematodes from these fields were confirmed as <i>Pratylenchus penetrans</i> using molecular methods and the fungal species was confirmed as <i>Fusarium oxysporum</i> using molecular techniques and morphological characters.	Identify and confirm the casual nematode and fungal species.

<p>Micro-plot experiments were carried out during 2016 and 2017 growing seasons. <i>P. penetrans</i> at 200 (low), 800 (medium), 2,000 (high) or 3,000 (very high) nematodes per 5 kg of soil and <i>F. oxysporum</i> at 5 (low), 10 (medium), 20 (high) or 30 (very high) colonized barley seeds per 5 kg soil were either inoculated individually or together at same level. Nematode or fungus alone or co-inoculation at high and very high densities significantly reduced all parameters in both years. However, co-inoculation at medium density significantly reduced yield, plant height, and dry stem weight in both years. In conclusion, both pathogens have negative effects on potato emergence, growth and yield, and presence of both pathogens at the high level can cause more negative effects on these parameters compared to presence of only one pathogen at the same level (Figure 1).</p>	<p>Evaluate the effects of co-inoculation with the nematode and fungal species on emergence, growth and yield of potato.</p>
<p>Soils from three symptomatic fields naturally infested with <i>P. penetrans</i> and <i>F. oxysporum</i> from three farms were separately used to grow Red Norland potato cultivar in clay pots with 10 replications and a control soil. In 2016, 6 weeks after planting, emergence for each field soil was 60, 80 and 90% and the control was 90%. In 2017, emergence for each field soil was 60, 70 and 90%, while the control was 100%. From the experiments with artificial inoculation, emergence rate (50%) was lowest at high level of co-inoculation, compared to high fungus alone (60%), high nematode alone (70%), and non-inoculated control (90%). This indicates the effects of <i>P. penetrans</i> and <i>F. oxysporum</i> in potato emergence disorder disease under both naturally infested field soil and artificially infested soil conditions.</p>	<p>Compare the effects of infection from naturally infested field soils with the artificial inoculation of both nematode and fungal species.</p>



A

B

C

Figure 1. A plant with no obvious visual symptom under the non-inoculated treatment (A) and wilting, necrosis, and chlorosis of potato plants inoculated with both *P. penetrans* and *F. oxysporum* at the high pathogen density (B and C).

Based on the results explained in the Actual Accomplishments Table, using naturally infested soils from three farms, average emergence rate was 60%, 75%, and 90% and the control was 95%. Using artificial inoculation, emergence rate (50%) was lowest at high level of co-inoculation, compared to high fungus alone (60%), high nematode alone (70%), and non-inoculated control (90%). Both pathogens also have significant negative effects on potato growth and yield, and presence of both pathogens at the high level can cause more negative effects compared to presence of only one pathogen at the same level. This indicates the harmful effects of *P. penetrans* and *F. oxysporum* in potato emergence disorder. Hence, management of these pathogens would help to improving potato production in this region.

BENEFICIARIES

Potato growers with potato emergence disorder problem in Minnesota will be directly benefited from this project because identifying the cause of this emerging problems is important to develop appropriate strategies for managing this problem.

Although the problem has been limited to Sherburne County, the nature of this spreading problem indicates that it could affect the other potato growing areas in Minnesota and in North Central region. The estimated number of project beneficiaries is 20 potato farms.

LESSONS LEARNED

This project proceeded as expected and scheduled. Staff learned that growing potatoes in isolated pots in the soil is harder than expected. One of the biggest reasons being is water does not move as quickly through a clay pot. Thus, irrigation had to be more carefully managed to ensure that plants were not overwatered. Additionally, weed control between pots was more challenging because there was not a canopy closure to prevent light from reaching the soil throughout the growing season. We spent much time weeding around pots. In retrospect, we should have put the pots closer together.

ADDITIONAL INFORMATION

Upadhaya, A. 2018. Chapter 5: plant-parasitic nematodes in potato fields and the effects of co-inoculation with *pratylenchus penetrans* and *fusarium oxysporum* on potato growth and yield. Master thesis, North Dakota State University.

Upadhaya, A., Yan, G. P., Secor, G., and Robinson, A. P. 2018. Micro-plot study of potato emergence disorder in commercial fields in Central Minnesota. American Phytopathological Society North Central Division Meeting, Fargo, North Dakota, June 12-14 (poster presentation).

Upadhaya, A., Yan, G. P., Plaisance, A., Secor, G., and Robinson, A. 2017. Effects of co-inoculation with *Pratylenchus penetrans* and *Fusarium oxysporum* on potato emergence, growth and yield. Page 120 in Abstracts of 56th Annual Meeting of the Society of Nematologists, Williamsburg, Virginia, August 13-16 (oral presentation).

Project 3

MN Specialty Crop Block Grant – Federal Fiscal Year 15
FINAL PERFORMANCE REPORT

Contact: Paul Hugunin

Organization: Minnesota Grown Promotion Group, Inc.

Contact information: paul.hugunin@state.mn.us

PROJECT TITLE

Statewide Marketing of Minnesota Grown Specialty Crops

PROJECT SUMMARY

The most basic issue behind this project is that in Minnesota, specialty crop producers don't have access to industry-wide promotional funds in the same way that commodity producers of corn, soybeans, etc. have. The MDA's Minnesota Grown Program was created to provide an umbrella marketing program for these specialty crops. The SCBG program is an ideal supplemental program to help the Minnesota Grown Program conduct marketing activities that it otherwise couldn't afford to do. The digital marketing efforts funded by the project are things that didn't exist when the program was created but that are absolutely necessary for a successful statewide marketing campaign.

This project was proposed and executed during a time when consumer demand for locally grown produce continued to increase. In MN, this was evident by the increased number of farmers markets (182 in 2015 compared to just 64 markets in 2005), increased number of CSA farms (90 in 2015 compared to just 14 in 2005) & the increased number of farm wineries (40 in 2015 compared to just 7 in 2005). Consumers were not only demanding local food direct from producers, but

looking for it in their grocery stores as well. This is evident through the “Minnesota Grown Retailer of the Year” competition & the increasing number of retail grocery chains vigorously competing to earn the title. Consumers want to know where their food comes from, who grows it & they want to connect with the farmers who grow their food. With this increase in demand, specialty crop growers needed assistance developing marketing tools that facilitate their connection to these consumers.

This project built on the success of previous SCBG funded projects that pioneered the use of sponsored search advertising as a tool to connect specialty crop growers with individual consumers. This project expands the use of paid social media campaigns in addition to traditional sponsored search campaigns with Google, Bing and Yahoo.

PROJECT APPROACH

1. Increase demand for MN specialty crops by linking consumers with growers via the online Minnesota Grown Directory through pay per click advertising.

Our sponsored search advertising (Pay-Per-Click) is complete and has performed as expected. This highly successful, targeted activity builds on the experience we have gained in previous SCBG projects.

Apples	23,626 clicks (17,462 Google, 6,164 Bing)
Christmas trees:	13,373 clicks (12,034 Google, 1,339 Bing)
Berry farms:	12,667 clicks (10,094 Google, 2,573 Bing)
CSA:	6,751 clicks (3,780 Google, 2,971 Bing)
Farm wineries:	24,556 clicks (20,077 Google, 4,479 Bing)
Pumpkin patches:	13,068 clicks (10,920 Google, 2,148 Bing)
Honey:	2,384 clicks (2,072 Google, 632 Bing)

Because PPC advertising is specific to a given set of keywords, we can ensure that SCBG funds are only used to promote eligible specialty crops. For example, people searching for “apples” are shown our ad promoting Minnesota Grown apples and are taken to our online Directory only if they click on the ad for apples. The MGPG uses PPC for promotion of non-specialty crops but they pay for that advertising directly with their own funds.

Our promoted Facebook promoted posts have been seen by 178,826 people during this time and resulted in 3,941 clicks to the website. We ensure that sponsored posts on Facebook only benefit specialty crop producers. The only sponsored posts paid for with SCBG funds are those posts that specifically promote eligible specialty crops.

2. Increase consumer awareness of and demand for specialty crops by improving 20 specialty crop landing pages through layout, search engine optimization, and the development of 10-12 new short informational videos.

With assistance from the web programming company (Cimbura/Luminfire), we have created a new page format that was used for twenty new and improved landing pages. Each page includes a very simple, clean format that is mobile-friendly and makes it very easy for users to get to the farm listings for each products.

3. Create and distribute promotional materials to identify, promote, and support specialty crops in direct markets and retail settings.

MGPB printed and distributed bunch tags and rubber bands upon request to specialty crop growers that participate in the Minnesota Grown Progra. Each item is specific enough that it can only be used on eligible specialty crops.

Rubber bands. These rubber bands are ideal for use on any produce item sold in bunches, including asparagus, rhubarb, broccoli, cauliflower, lettuce , and other greens. We distributed over 235,000 rubber bands to more than 270 different specialty crop growers!

Bunch tags. The bunch tags are designed to clip on to the rubber bands but they can also attach to the front of the trays used to market fruits and vegetables at farmers markets. We distributed nearly 130,000 bunch tags to 156 different produce growers.

Honey price cards. The original project proposal included plans to develop new price cards for honey. These funds were reallocated to the sponsored search campaign with approval of MDA's SCBG coordinator. Although they weren't paid for with SCBG funds, the MDA's Minnesota Grown Program worked with the honey industry to develop, print and distribute new stickers to help identify and promote local honey.

4. To increase consumer demand for locally grown specialty crops through the printed Minnesota Grown Directory.

The 2016 Minnesota Grown Directory was printed in April, 2016. It included 7 total pages in the Directory dedicated to content promoting specialty crops, including a brand new informational page about blueberries and a quick list of local blueberry growers listed in the Directory. We also included a farm winery quick list, an informational page about MN grape varieties, and infographics on the following 9 specialty crops: honey, garlic, squash, raspberries, carrots, apples, asparagus, rhubarb and pumpkins. Artwork of all pages printed in the Directory were included along with the 2016 annual progress report submitted to USDA. We distributed more than 130,000 copies of the Directory.

The primary partner in this project is the Minnesota Department of Agriculture. They provide staff time to administer the project and ensure that the activities align with the MDA's Minnesota Grown Program activities. This ensures that we avoid duplication and that this project supplements rather than supplants existing activities.

Cimbura (which changed its name to LuminFire during the course of this project) is the contracted web design company that is providing expertise on landing page formatting and SEO guidance

GOALS AND OUTCOMES ACHIEVED

- Increase demand for MN specialty crops by linking consumers with growers via the online Minnesota Grown Directory through pay per click advertising.
 - Based on the SCBG budget and priorities provided by MGPG, MDA staff create and monitor sponsored search ads within Google AdWords and the Microsoft Ad Network (Bing and Yahoo). MDA tracks the budget as well as performance measures such as click-through rates, impressions and cost per click.
- Increase consumer awareness of and demand for specialty crops by improving 20 specialty crop landing pages through layout, search engine optimization, and the development of 10-12 new short informational videos.
 - MDA worked with the MGPG's contracted web vendor to choose a standard software tool for the landing pages. The contractor provided assistance in page design and was responsible for where the pages would reside on the overall website and how site navigation would function between the new pages and the existing search results for each specialty crop.
- Create and distribute promotional materials to identify, promote, and support specialty crops in direct markets and retail settings.
 - MDA graphics staff worked with printing vendors to provide print-ready artwork for the rubber bands and bunch tags. MDA fulfilled orders for each product and tracked each order to provide for follow-up surveys and feedback from the grower.
- To increase consumer demand for locally grown specialty crops through the printed Minnesota Grown Directory.
 - MDA designed all specialty crop ads and placed them throughout the printed Directory. MDA contracted for the printing of the Directory and was responsible for distribution statewide.

Some of the overall goals of this project are long term – primarily the idea of building landing pages as a tool to increase our organic search engine results so that we can eventually decrease dependence on sponsored search advertising (pay-per-click). This project has helped us create these new landing pages which is a great first step. But it is a long term project to format them and keep them updated to perform well under Google's ever-changing algorithms for search engine results.

Measurable Outcome #1

GOAL: To increase the number of consumers who purchase MN Grown specialty crops as a result of using the online Minnesota Grown Directory. Surveys of participating growers as well as surveys of

consumers who purchase from them clearly show that the Minnesota Grown Directory is directly responsible for sales of specialty crops.

PERFORMANCE MEASURE: We will use Google Analytics to measure & track the number of unique visitors to www.minnesotagrown.com as well as the source of visitors to document how many arrived from PPC, unpaid search engine results, & links from other sites. Consumer traffic to the online Directory is a valid measure of increasing the competitiveness of specialty crops.

BENCHMARK: In calendar year 2014, we received 294,000 unique visitors.

TARGET: Our goal was a 5% increase in the number of unique visitors to at least 308,700 unique visitors annually.

ACTUAL: According to Google Analytics, we received 308,291 unique visitors in calendar year 2015, almost exactly meeting the 5% target.

Measurable Outcome #2

GOAL: To increase the competitiveness of Minnesota Specialty crop producers by providing them with effective promotional materials to increase their sales & visibility.

PERFORMANCE MEASURE: We will tracked producer orders for bunch tags & rubber bands and surveyed specialty crop producers who ordered them, asking about the effectiveness of the items & their estimated impact on sales.

BENCHMARK: Our initial survey of producers who used the rubber bands & bunch tags indicated that just over 75% of producers reporting increased sales because of them.

TARGET: Our goal is to have at least 75% of producers who use the new promotional items report that their sales increased by at least 10% because of the promotional material.

ACTUAL: As planned, we kept a record of every producer order for rubber bands and bunch tags. We distributed rubber bands to more than 250 specialty crop producers and bunch tags to more than 150 producers. Just over 65% of producers who responded to our follow-up survey indicated that they felt their sales increased by at least 10% because of the promotional items.

BENEFICIARIES

During implementation of this project, there were more than 1,250 producers licensed to use the Minnesota Grown logo, 80% of whom raise specialty crops. This includes a wide range of specialty crops, including apples, berries, Christmas trees, landscaping plants, honey, grapes, squash, and more. More than 40% of members had been farming for less than 10 years, including 21% that had been farming for 2-4 years & 2% in their first year.

LESSONS LEARNED

Search engines such as Google, Bing and Yahoo are continually changing their proprietary algorithms that determine how a particular web page will rank for a specific search term or phrase. They don't publish these algorithms so best practices for web page format and content are continually changing. The primary lesson for us is that web pages should be updated regularly in order to have the most up-to-date content. This is a challenge not only for a program like Minnesota Grown, but for all of our member farms that have their own web pages.

The cost of conducting sponsored search advertising continues to increase as more and more companies include it as a significant portion of their marketing plan. It is still a very efficient, cost-effective, targeted tool but it is becoming more expensive.

One of the benefits of creating the landing pages for this project is that we developed the in-house expertise that will allow us to create additional landing pages for other products.

ADDITIONAL INFORMATION

New specialty crop landing pages are housed on the Minnesota Grown website (they will be reinstalled after the MDA recently overhauled its external website) at www.minnesotagrown.com

Project 4

MN Specialty Crop Block Grant – Federal Fiscal Year 15

FINAL PERFORMANCE REPORT

Contact: Grace Brogan

Organization: Renewing the Countryside

Contact information: grace@rtcinfo.org

PROJECT TITLE

Accelerating Farm to Cafeteria Success

PROJECT SUMMARY

Demand for locally-grown specialty crops continues to grow in Minnesota, particularly among institutions like schools, hospitals, child cares, and universities. In 2006, fewer than 20 school districts were engaged in Farm to School, but as of the 2011-12 school year, according to the [USDA Farm to School Census](#), 208 Minnesota districts spent \$12 million on local foods. At the same time,

there are many producers (current and aspiring) who are interested in filling this demand. A recent statewide survey we co-designed found that three out of four respondents, most of whom were specialty crop producers, were interested in selling their product to institutional markets and were interested in accessing information through experiences like Renewing the Countryside's regional farmer-buyer networking events. We have tested our facilitated networking events in a variety of scales and formats over the last decade, including our hugely popular farmer-buyer speed-dating sessions, and due to the recent rise in demand for orienting business models for institutional markets, Minnesota farmers are asking for more. Partnered with face-to-face networking between buyers and producers, our regional events across the state were designed to include hands-on introductory trainings in post-harvest handling, Good Agricultural Practices (GAPs), and local food procurement tips and resources to give specialty crop producers and buyers the firm foundation they need to build their farm to institution initiatives. We also are seeing early success with our Specialty Crop Enhancement Team model (previously funded by SCBGP) where we match producers with a targeted team of experts (both fellow farmers and technical assistance providers) to improve business success in Southeastern Minnesota. We plan to mirror this model within the farm to institution market across the state, following our regional workshops. This will give those food service professionals from institutions like schools, health care facilities, child care programs, colleges, and elder care facilities the added support they need to move from an interest in incorporating more specialty crops to actualizing those desires.

Demand for locally- grown food continues to grow in Minnesota, particularly among institutions like schools, hospitals, and child care centers, as shown by the tenfold increase from 2006 to 2012 mentioned above. Farm to Institution or Farm to Cafeteria programs advance cross--sector efforts to combat chronic diseases like obesity, increase healthy eating behaviors, and support regional economies through nutrition education and healthy food access. However, buyers and growers need assistance in navigating the complex web of regulation and food safety when it comes to local purchasing and selling to institutions, respectively.

In a 2015 survey of Minnesota farmers, over 77% were interested in selling to institutions and noted that being connected to institution staff was of interest, as well as understanding their specifications, logistical support, aggregation opportunities, and improved food safety procedures, among other things. Respondents were interested in accessing information and resources on institutional markets through a mixture of in-person and online forums, including regional farmer-buyer networking events.

We had been hearing from the farmers that they were facing many barriers as they explored this market within their communities. This project has a strong foundation in our history of work in community-based food systems, and has been an important stepping stone into the future of this work, as well. We borrowed a page from Minnesota Department of Agriculture's Dairy Profitability and Enhancement Teams and adapted this model, thanks to a 2014 Specialty Crop Block Grant, to edible specialty crop farmers. Early experience suggested that by matching specialty crop farmers with a team of professionals, we could accelerate producers' ability to expand production and increase sales. The Midwest Organic and Sustainable Education Service has found success with their

farmer-to-farmer mentorship program, and Minneapolis Public School District's Farm to School Program has also explored the use of farmer advisors to expand their pool of specialty crop farmers prepared for institutional markets. As we got deeper, we found that the Specialty Crop Enhancement Team project design and audience were very different from its inspiration, the Dairy Profitability model. Both projects ended up needing major adaptation and significantly more staff time and on-the-ground facetime to nudge them forward given the nature of today's institutional buying culture and the multitude of roles and pulls on a specialty crop farmers' time, but they also both made it clear that there is a great need and desire for technical assistance throughout the state to move the Farm to Cafeteria needle in the right direction. And from what we've learned through these experiences, the Farmer's Market Aggregation Project has been informed and is making impressive progress in its pilot stages.

This project builds off of a number of other initiatives and projects. First of all, it borrows a page from the Minnesota Department of Agriculture's Dairy Profitability and Enhancement Teams. These teams have proven to be effective means of improving the profitability of dairy farmers in Minnesota. Secondly, we adapted this model, thanks to a 2014 Specialty Crop Block Grant, to edible specialty crop farmers. Early experience suggests that by matching specialty crop farmers with a team of professionals – we can accelerate that producers ability to expand production and increase sales. The Midwest Organic and Sustainable Education Service has found success with their farmer-to-farmer mentorship program, and Minneapolis Public School District's Farm to School Program has also explored the use of farmer advisors to expand their pool of specialty crop farmers prepared for institutional markets.

Additionally, this project builds off of the Minnesota Institute for Sustainable Agriculture (MISA) and FamilyFarmed.org Wholesale Success manual, and recent RTC/MISA post-harvest handling workshops. A recent statewide Farm to Institutions survey conducted in collaboration with the Sustainable Farming Association of Minnesota, Renewing the Countryside, and the Institute for Agriculture and Trade Policy recently highlighted and clarified the barriers specialty crop producers are facing in accessing institutional markets. Other existing networks, projects, and programs will be invaluable in developing marketing and educational material for the workshops, and membership of the Farm to Cafeteria Enhancement Teams.

Finally, this project was built on Renewing the Countryside's work to expand local foods markets. RTC has over a decade of experience working with farm and food entrepreneurs. We have conducted over 30 farmer/buyer networking workshops throughout the state, which have resulted in increased sales for farmers and helped broaden interest in local foods. We have also collaborated with MOSES to develop the New Organic Stewards Program, which continues to provide training and assistance to new farmers in the Upper Midwest. Finally, we have a long record of promoting specialty crops through events (e.g. Healthy Local Foods at the EcoExperience), publications (Minnesota Homegrown Cookbook), and media (Local Food Hero Radio show).

This work continues into the future, as well. We have continued to build connections between farmers and community-based institutional buyers, as well as creating systems to make the process

streamlined and safe, through our innovative Farmers Market Aggregation project, using farmers markets as a means of efficiently aggregating and distributing specialty crops to schools, hospitals, and other institutions. Our ongoing work around Farm to Early Care is also long-term; we continue to build these connections and education around how to purchase local specialty crops, through our trainings and technical support to early childhood professionals.

PROJECT APPROACH

This project has two major components that include:

- 1) regional networking events to connect farmers with institutional providers and both end of the market with introductions to necessary information about food safety and local specialty crop procurement; and
- 2) more in-depth mentorships or enhancement teams that provide expertise to institutions so that they can navigate barriers to local food purchasing and increase their purchasing of local specialty crops.

Regional Networking Events

Once our advisory team came together to plan the regional events, we made sure to prioritize communities outside of the metro area that could particularly benefit from this type of experience and build their capacity to continue to move similar work forward into the future. We chose four communities based on expressed interest, need, and readiness on the ground to support local food system development. Those communities were smaller than we had originally imagined, but got to the heart of the intention of the project. The events reached 220 participants, of which over 65 were farmers. Institutional buyers and community advocates who are working locally on strengthening food systems were also invited to the events and expressed strong interest, so that we built capacity not only among farmers, but also buyers and people providing support services in their own communities. The majority of surveys conducted after the event indicated that participants found the sessions useful or very useful (97% overall) and that they felt better informed (100%). Many shared qualitative feedback that the opportunity to network and meet people in their community face to face was valuable.

We had over 220 people attend four regional events in small communities across Minnesota. We set a goal of 100 attendees, noted as producers in the proposal. We feel that the number and types of attendees, given the goal of the project to reach smaller, outstate communities and with the planning committee's direction, may have shifted a bit, but met the most need and developed capacity across the state where it was needed most.

- Thief River Falls: 35 attendees, with at least 8 farmers, 6 buyers, and 8 advocates
- Aitkin area: 65 attendees with at least 22 farmers, 16 buyers, 12 advocates

- St. Joseph area: 67 attendees, with at least 21 farmers, 15 buyers, and 23 advocates
- Mankato: 56 attendees, with at least 14 farmers, 8 buyers, and 22 advocates

Additionally, through the process of identifying communities at the nexus of need for capacity building and readiness for specialty crop purchasing growth, we not only built capacity in the four regions we worked with to develop local planning committees and implement events, but also other communities who were interested in learning about our networking methods and preferred educational resources. We shared these details with four other communities and are aware of at least one of them executing an event with that information that reached an additional 20+ participants. We continue to develop the relationships and partnerships established through that process and will continue to leverage them to build regional capacity in the future.

Farmers attending the networking events were primarily growing vegetables (79%), with the second most common crop being fruit (38%). Most were producing multiple crops, and some were raising livestock. Among the 15 who reported having current accounts with institutional/wholesale market channels, the average number of accounts was seven. Among those who reported a value for gross annual sales to institutional/wholesale channels, the average was \$49,000 (n=13 reporting sales figures). Asked about participants' number of relationships with institutional buyers, the average was three.

With regard to food safety knowledge, 22% said they had no prior knowledge about food safety practices before attending the event, while 70% said they understood the basics and 8% said they were very knowledgeable about the topic. Still, 100% said they felt better informed after the event. An assessment of currently-practices food safety protocols showed that the most commonly reported food safety practice was "appropriate usage of animal manure of agricultural fields" (77% of respondents); 58% have protocols for cleaning and sanitizing of tools, packing area, etc.; 55% have protocols for worker health and hygiene; 52% have attended post-harvest handling workshops; 48% have attended GAP workshops; 45% have regular agricultural and post-harvest water testing; 39% have a written food safety plan, and 35% have written SOPs.

Just 39% of attendees were already listed in the Minnesota Grown Directory; of those not listed, 68% said they were interested in being listed. Asked if they would be interested in being listed in a Farm to Institution Directory, 91% said yes.

Buyers attending the networking events represented a range of institutional entities: 32% from K-12 schools, 14% from hospitals, 11% each from college food service and long term care facilities, with two Head Start representatives, one from retail, one caterer, and one distributor. When asked about types of local products of interest, there were 27 mentions of vegetables, 10 mentions of fruit, and 4 mentions of produce in general; there were 4 mentions of beef, 3 mentions of chicken, and 4 mentions of meat in general. Other mentions included grains, eggs and dairy, while four respondents simply said, "all."

This group of buyers reported having an average of 5 accounts with local producers, though the majority of the reported accounts were from three buyers with much higher amounts than the others—the distributor, a retail operation, and a school district. Reported annual expenditures with these accounts varied from \$200 to upwards of two million dollars. An average of those reporting a figure comes to \$225,000.

When asked about barriers to purchasing from local farmers, lack of connections was the most common response (46% of respondents), followed by lack of knowledge, pricing and availability.

The majority of participants rated the networking components as “very useful” over “useful” by an almost 3-to-1 margin, while the food safety/GAPs component was the only one receiving ratings of “not very” useful (2). Nearly all reportedly did not use the Minnesota Grown Directory at the time of the event, but were interested in using it. Buyers reported a variety of similar plans such as, “Apply the information & contacts to prepare for next school season,” hinting at the planning involved for buyers to implement processes for local procurement.

Advocates attending these networking events included those assisting both farmers and buyers looking to buy more local, including local public health and Extension professionals. Although at the offset this role may not have been front and center, it became clear upon planning the events and mentorships that these are important partners in the work because they have shared goals, local connections, and the ability to learn from our technical assistance to help build local capacity for long term sustainability of this kind of support. Barriers they perceived included lack of farmers’ markets in certain areas, lack of information in institutions of how to access and how to use local produce, and connections between farmers and buyers. The commonly-mentioned barriers of cost, seasonality and scale were also mentioned; processing capacity to expand and increase the amount of product available outside the growing season as well as aggregation and distribution were mentioned as key needs. We were grateful to have local allies for this project and our leveraging of each other’s skills, networks, and roles carries forward beyond the life of this grant.

We have followed with attendees to monitor the number of relationships established through the networking events with buyers and the changes made to food safety and/or post-harvest handling procedures. One year following the event, 80% of farmer respondents indicated that they had improved food safety and/or post-harvest handling improvements since the event, while those who indicated an increase in sales since the event ranged from \$400-4000 (survey response rate=9%). Two years following the event, another survey was sent to gather additional outcomes (response rate=17%). Of those farmer respondents, 100% indicated that they felt better informed about Farm to Institution practices following the event. Regarding how they have used the information gained at the event, one farmer commented, “We already had a food safety plan, but we expanded on it,” while another said, “We have planned for increased delivery range and production.” Reflecting on the overall experience, one farmer stated, “It was a good event. I liked the ‘speed dating’ part. Having people who work from the licensing and inspecting come in and explain their views was helpful.”

Looking at the follow-up surveys together, four respondents answered both surveys, for a total number of 13 respondents overall. Of those 13, seven reported forming new relationships with buyers as a result of the networking event, although it's not clear that those relationships represent actual rather than potential sales. Only four were able to cite an estimated for gross annual sales from those relationships; of those, the average value of the new accounts was \$860. Six of the 13 reported having made improvements to food safety and/or post-harvesting handling practices since the event, and of those six, four had reported new buyer relationships resulting from the event.

When asking about the types of institutional sales the farms currently make, there was some indication of growth along with others who registered as being 'interested' in selling to those institutions. Four of 13 indicated they were currently selling to K-12 schools; one of those began those sales after the networking event. Overall there were seven instances where farms were selling to new market channels as of the follow-up surveys, compared to where they were selling prior to the networking events.

Farm to Cafeteria Mentorships

Our goal was to reach 15 institutions with enhancement team mentorships on a rolling basis over the length of the grant. Currently, 15 institutions reaching 27 sites have progressed through mentorships to the point of purchasing more specialty crops and/or committing to as soon as they are ready this season.

5 school districts, totaling 13 sites (early care, middle, and high school), plus 1 summer feeding program

1 chain of child care centers with 5 sites throughout the region

6 home daycare sites

2 hospitals/medical centers

1 long-term care facility

We have found that implementing mentorships is challenging and time consuming, but ultimately very rewarding for all parties. We have continued to work with partners to spread the word to find a diversity of ways to navigate barriers, we have continued to build local knowledge, and to explore organizationally how we can expand outreach and staff capacity to facilitate these important conversations. We continue to be open to learning and change, and are excited that this project has found new, broader, and stronger wings in our ongoing work connecting specialty crop farmers with community-based institutional buyers.

Conclusion

Overall, feedback from the events and the mentorships has been very positive, and there is a clear need for opportunities to connect and learn. Developing regional leadership and capacity also seems like an important piece of the puzzle, and is something we think this program has begun to do well, and we have been able to expand on. Because of the challenges we have faced, and the benefits we have seen from on-the-ground personal connections through this and related projects, this has been a very beneficial learning experience that is helping us quickly improve and expand the reach of our other Farm to Institution projects, including those relying on the regional on-the-ground farmer network empowerment approach like Farmers Market Aggregation. We are excited to share the impacts of that, which is, in-part, an outgrowth of this project, in the coming months and years.

Lisa Gemlo and Tim Jenkins of MDH, Jason Walker of the Sustainable Farming Association of MN, Jane Jewett of MISA, and Stephanie Heim of UofM Extension were all active partners in helping plan and spread the word about regional events statewide. Local public health (SHIP) coordinators, farmers, nonprofit allies, members of the regional sustainable development partnerships, and extension educators were critical allies in planning and implementing the events on the ground in the communities they know best. We continue to work with the MN Farm to School Leadership Team and the Minnesota Farm to Early Care Coalition to expand our reach.

All of our institutional partners, regional farmers' partners, and other food supply chain members who have navigated barriers through our mentorships are critical partners that we not only support, but also learn from. Together, we're creating more opportunities for Minnesota specialty crops.

GOALS AND OUTCOMES ACHIEVED

Our advisory team came together to plan the regional networking events to connect farmers with institutional providers and both end of the market with introductions to necessary information about food safety and local specialty crop procurement. Surveys were collected at the networking events and we have followed up with attendees to monitor the number of relationships established through the networking events with buyers and the changes made to food safety and/or post-harvest handling procedures.

More in-depth mentorships were developed to provide expertise to institutions and facilitation with farmers so that they could navigate barriers to local food purchasing and increase their purchasing of local specialty crops. Direct communication with these mentor pairs provided feedback on needs and successes.

Follow-up surveys were sent out to gather longer-term outcomes at one-year and two-year points. Though response rates for the online surveys was low (9% and 17% for year one and two, respectively), there were examples of some farms that attributed some buyer relationships and sales to the networking events. Qualitative data gathered also suggested some issues related to scale, and some requests to hold networking events frequently.

Our goal was to reach 15 institutions with enhancement team mentorships on a rolling basis over the length of the grant. We have facilitated in the process by identifying barriers and providing technical assistance with 21 institutions (5 of which were school districts), but consistently found that one of the major barriers in making in-depth progress with mentees at institutions was a lack of perceived time to dedicate toward necessary discussions and change making. Many food service staff liked the idea of participating in a mentorship, but were not able to commit to one in action. It has been a slow process. We have continually made modifications to our approach to better meet our goals, and have recently found more forward momentum thanks to building regional capacity and leveraging new technology. That said, the majority of those mentees will be following through with our assistance over the last several months this growing season, so quantitative data is limited about purchasing changes this year. We did find that having in-person and multi-directional community connections, as well as persistent and regular contact (four or more encouraging reminders) was helpful. Currently, 15 institutions encompassing 27 sites have progressed through mentorships to the point of purchasing more specialty crops and/or committing to as soon as they are ready this season.

- 5 school districts, totaling 13 sites (elementary, middle, and high school), plus 1 summer feeding program
- 1 chain of child care centers with 5 sites throughout the region
- 6 home daycare sites
- 2 hospitals/medical centers
- 1 long-term care facility

Among the “completed” mentorships, the administration was very dedicated, and the increase in specialty crop purchases were significant. A privately owned chain of child care settings in Central Minnesota, they increased their local purchasing by 23x their rate prior to the beginning of this project. In 2014, their local food purchasing totaled \$1140, in 2015 \$1925, in 2016 \$2325, 2017 \$18,000, and in 2018 they expect to spend \$27,000 this season. Although not the norm, this case shows what is possible when priorities, assistance, and dedication align.

One of our recent mentees is a long-term care facility in northeast Minnesota who has begun swapping out staple vegetables like carrots, onions, and potatoes throughout their menu for locally grown specialty crops through our mentorship, which included a connection to a local farmer who specializes not only in growing vegetables but also winter storage for prolonged availability. The Director of Nutrition Services said, “When I have shared what I will be doing with the residents and their families on the menu and incorporating locally grown produce, they are very enthusiastic. Most of the population in our nursing home grew up on a farm or there was one in the family. It ties them to their roots. It is food that is recognizable to them. I am hoping it will increase their appetites and make the meals even more appealing.”

Other common barriers identified by institutions in the mentorship included perceived price, storage space, purchasing/delivery logistics, finding local specialty crop farmers, misinformation about the legalities of purchasing local specialty crops, kitchen skills/staff time (which in some cases relates back to streamlining delivery logistics), and existing restrictive contracts. Through this project, we've had multiple successes with ripples beyond single institutions as we've navigated these obstacles. One of our regional mentors researched online sales platform options based on the needs she was hearing and found in discussion with mentees that leveraging that technology encouraged many mentees at institutions to feel more prepared to purchase more local fruits, vegetables, and other specialty crops because of the ease and security it provided. That technology is now being utilized in additional communities and institutions throughout the state, increasing their specialty crop purchasing this summer.

When current contracts with vendors proved difficult, we also took the time to work with the institutional purchaser and food supply company to break through barriers. In one case, the vendor (and, in practice, food service staff for the school district) was Sodexo, which has historically not been very open to adding vendors or sourcing local, although they have within recent years incorporated a handful of regional suppliers into their system. Sodexo encouraged local farmers to get GAP certified and sell their specialty crops through Sodexo's distributor, Bix. One farm has done so with a popular crop, carrots, increasing opportunities to get those into local institutions that are part of the same food supply chain. Local salad greens were also added to the system during this project, and made available to students at 3 elementary schools throughout the month of May 2018, totaling an increase of over \$200 in that month alone. Some farmers felt that the added costs to the farmer and to the buyer because of the need for adding middle-men in the form of both Bix and Sodexo was not the most efficient way to build local food systems, connections, or economies, but it has clearly begun to make more specialty crops available within the existing system. Conversations on the topic may not be simple or fast, but they are slowly educating and changing both farmers and institutional buyers, and other stakeholders within the food system.

We have found that implementing mentorships is challenging and time consuming, but ultimately very rewarding for all parties. Institutional buyers and farmers are busy, and taking time to consider sharing needs and receiving assistance can be overwhelming, even when it is cost free. In some cases, it has also been challenging to find the appropriate experts who are able and willing to be mentors, even when they are paid a stipend, because we are still building knowledge and capacity in the state about these topics. Aligning everyone's timelines and schedules is an added challenge. So, we have continued to work with partners to spread the word to find a diversity of ways to navigate barriers, we have continued to build local knowledge, and to explore organizationally how we can expand outreach and staff capacity to facilitate these important conversations. We continue to be open to learning and change, and are excited that this project has found new, broader, and stronger wings in our ongoing work connecting specialty crop farmers with community-based institutional buyers.

Goal: Hold regional networking events to connect farmers with institutional providers for 100 attendees

Accomplishment: Held four events around the state for 220 attendees, including farmers, buyers, and advocates.

Goal: reach 15 institutions with enhancement team mentorships on a rolling basis over the length of the grant.

Currently: 15 institutions reaching 27 sites have progressed through mentorships to the point of purchasing more specialty crops and/or committing to as soon as they are ready this season.

Goal: Facilitate more institutional purchases of specialty crops

Accomplishment: Per aggregated data from farmer follow-up at one and two years afterwards, seven of 13 respondents (54%) reported new buyer relationships, with \$680 in average annual sales attributed to those relationships.

As reported above, significant barriers were identified through the mentorships, and through increased awareness of the online sales platform as well as some success entering the more mainstream supply chain, there is slow progress visible. Given the seasonal growing patterns it takes time to plan for growth in sales resulting from these new markets.

The regional networking events to connect farmers with institutional providers were a step towards the desired outcomes of increasing direct purchases by institutions; as referenced in the response to question 3, a survey of Minnesota farmers found that many (over 77%) were interested in selling to institutions, being connected to institution staff, and better understanding their specifications. Four networking events brought together three stakeholder groups: farmers, buyers, and advocates working to assist with this food system issue. Program content was rated as useful or very useful by 97% of participants, and connections were facilitated between these groups. All of the buyers attending these events wanted to increase local sourcing, although some were better poised to act quickly than others. Farmers attending expressed interest in selling to these institutional markets—especially childcare centers, hospitals, K-12 and college foodservice, and restaurants. The numbers who planned to sell into those markets that year were much smaller; there were consistent comments that they understood that planning was necessary to be well-positioned for those sales, such as, “to decide what to grow,” and, “working on food safety plan and written operating procedures.”

Given that there was this range of preparedness on the part of both growers and buyers, the mentorships in action among 15 institutions is significant progress; although our data on farmer sales progress is limited, we have seen increases resulting from the mentorships and the shared use of sales tracking software.

BENEFICIARIES

Minnesota specialty crop farmers have benefited from this project's accomplishments. Both immediately and directly, through purchasing during the timeframe of this grant, and over the long term as we have continued to (and will through our ongoing programs) dispel misconceptions, provide relevant resources, and offer support to navigate barriers, these farmers have access to new and expanded markets as institutions become more informed and prepared to purchase local specialty crops.

- 15 institutions reaching 27 sites have progressed through mentorships to the point of purchasing more specialty crops and/or committing to as soon as they are ready this season.
- 7 of 13 respondents (54%) to an online follow-up survey reported new buyer relationships, with \$680 in average annual sales attributed to those relationships
- Local salad greens were made available to students at 3 elementary schools throughout the month of May 2018, totaling an increase of over \$200 in that month alone for the grower.
- A privately owned chain of child care settings in Central Minnesota has been increasing their local purchasing. In 2016, their local food purchasing totaled \$2,325, in 2017, \$18,000, and they expect to spend \$27,000 during this 2018 season.
- With at least 65 farmers attending the networking sessions, we can calculate a projection of economic impact using the average increase in institutional sales reported by the farmers who responded to our online follow-up surveys (\$680). Using those figures, potential increased sales come to \$44,000. In addition, with our anecdotal information from the mentorship experiences, the building of relationships and experience with the software tools will likely lead to increases in these sales.

LESSONS LEARNED

We have found that implementing mentorships is challenging and time consuming, but ultimately very rewarding for all parties. We have continued to build local knowledge, and to explore organizationally how we can expand outreach and staff capacity to facilitate these important conversations. We continue to be open to learning and change, and are excited that this project has found new, broader, and stronger wings in our ongoing work connecting specialty crop farmers with community-based institutional buyers. Institutional buyers and farmers are busy, and taking time to consider sharing needs and receiving assistance can be overwhelming, even when it is cost free. In some cases, it has also been challenging to find the appropriate experts who are able and willing to be mentors, even when they are paid a stipend, because we are still building knowledge and capacity in the state about these topics. Aligning everyone's timelines and schedules is an added challenge. This experience allowed us to modify and adapt language, approach, and incentives, and I think we've made great progress through those lessons learned.

Developing regional leadership and capacity also seems like an important piece of the puzzle, and is something we think this program has begun to do well, and we have been able to expand on. Because of the challenges we have faced, and the benefits we have seen from on-the-ground personal connections through this and related projects, this has been a very beneficial learning experience that is helping us quickly improve and expand the reach of our other Farm to Institution projects, including those relying on the regional on-the-ground farmer network empowerment approach like Farmers Market Aggregation. We are excited to share the impacts of that, which is, in-part, an outgrowth of this project, in the coming months and years.

We connected with many partners, new and old, over the course of this project, and how we work together has continued to change and advance. We've been able to make connections between other partners within and beyond the specific grant activities that have benefited specialty crop farmers, local public health officials, and regional capacity building to support the growth of specialty crop sales into the future. We've brainstormed potential events with partners to leverage what we learn here to larger audiences and in even more-hands ways that could have really positive impacts on specialty crop farmers, communities of eaters, and the local food system in Minnesota.

One unexpected outcome worth noting includes the research that went into how we could use technology to navigate some of the perceived barriers that our mentees were facing regarding purchasing logistics. There are a number of sales platforms available now, many of them still in their early years, trying to meet these needs. Local Orbit seemed like the right fit for the specific barriers we were hearing from farmers and institutions. It is important to keep in mind that we should all consider how we can leverage technology to ease logistical concerns. This, it seems, was a turning point for many institutions to feel more ready to purchase from local specialty crop farmers because it unified and clarified point of sale and connections to multiple farmers.

Another unexpected outcome is how this project dovetailed with, informed, and benefited our partnership working on the Farmers Market Aggregation model, and we see that project as a great outgrowth and continuation of this Farm to Cafeteria work. For some many institutions (and farmers), the idea of streamline purchasing, strengthening food safety, and basing relationships in one place seemed to be an important push needed into purchasing local vegetables and fruit.

The original outcomes we suggested were close to what we achieved, but we learned more about the nuances of what it looks like to manifest the program design in each of the specific communities and how that reached participants in different ways. The lessons learned were also discussed in our responses above (under Project Approach, Goals and Outcomes Achieved, and Lessons Learned). Implementing mentorships is challenging and time consuming, but ultimately very rewarding for all parties involved; that this project has found new, broader, and stronger wings in our ongoing work connecting specialty crop farmers with community-based institutional buyers.

ADDITIONAL INFORMATION

Networking Event and Farm to Early Care Training photos



Resource compilation website: http://www.renewingthecountryside.org/farm_to_institution_resources

Follow up survey after Farm to Institution workshops was given to participants in spring of 2016. The questionnaire is attached with the Final Performance Report.

Project 5

MN Specialty Crop Block Grant – Federal Fiscal Year 15

FINAL PERFORMANCE REPORT

Contact: Melissa Driscoll

Organization: Seven Songs Organic Farm

Contact information: m.driscoll66@yahoo.com

PROJECT TITLE

Growing Ginger in Minnesota Without a High Tunnel

PROJECT SUMMARY

Interest in producing local ginger is increasing in Minnesota, yet the cost of high-tunnel production limits the ability to meet the growing demand. To reduce costs and increase production our cooperators wanted to test if it is possible to profitably grow ginger in Minnesota without investing in a permanent high tunnel. Seven Songs Farm farmers found that ginger is a profitable crop and that the high tunnel is only needed to help regulate the temperature of the environment around the ginger in late spring and in early and mid-fall. The cooperators suspected that alternative methods could be used in conjunction with more flexible low tunnels to create the necessary environment for successfully growing ginger. While a high tunnel is \$10,000-\$15,000, covering the same area with low tunnels costs only \$1,500-\$2,000. If this method works, any upper-Midwest grower of annual heat-loving specialty crops could provide a longer growing season for their crops at minimal expense. This would allow specialty growers to provide more of the unusual ingredients that locavore chefs and home cooks are looking for.

This project was motivated by the experience at Seven Songs Farm where they were running out of high tunnel space for rotating the crop, and yet were not interested in investing in another high tunnel. Meanwhile, other farms in Minnesota were starting to grow ginger, and were eager to participate in the project, and to learn if more ginger could be grown profitably in Minnesota.

PROJECT APPROACH

Our project took place from November 2015 until May 2018 and included:

- November 2015 through January 2016: Ordered the ginger seed, planned the first year of the project including ordering equipment for the low tunnels and advertising for interns.

- February 2016 through April 2016: Started pre-sprouting ginger in growth chamber at Seven Songs Farm for 6 weeks, then distributed the ginger to each farm, where each farmer planted the ginger in flats.
- Late May 2016: Planted ginger into each treatment, on each farm. Placed temperature and other monitoring equipment in each treatment and started to collect data. All ginger was planted into the ground and the treatments were:
 - High Tunnel
 - Low Tunnel
 - Low Tunnel with ground heating coil laid under the ginger
 - Low Tunnel with ground heating coil laid under the ginger and foam insulation installed to a depth of 18 inches on all 4 sides of the low tunnel
- June – October 2016: Sides of high tunnels were raised and lowered to try to keep the ginger not lower than 50 F, and not higher than 90 F. Some farms used remote sensors, others used regular thermometers to check air temperature, and ginger was weeded, hilled and fertilized once per month (but not generally at the same time of the month).
- End of October 2016: Ginger was harvested and weighed, and the data was compiled.
- Summary of 2016 growing season:
 - The project cooperators met once a month throughout the season by conference call. The PI visited the other two farms during the growing season.
 - The interns at Cornercopia farm put together a great Google Docs form that we could enter data into, and it could be accessed as a spreadsheet at any point in the season. Unfortunately in this first year not everyone (including the PI) entered data every day and instead some relied on AcuRite Sensors or data loggers.
 - A few data collection methods were faulty. The data logger did not handle field conditions and if it collected data it did not release it (Cornercopia Farm). The AcuRite sensor company changed their protocol and did not keep data at the company for more than a month, so earlier data that we thought could be uploaded (sent to us) was not available (Seven Songs Farm). The best data collection was at Bossy Acres, where the farmer manually wrote down temperatures every day in a notebook and transferred them to our Google Docs form.
 - For two of the three farms the unheated low tunnel out performed all other treatments. For the third farm all treatments were very similar in yield, but the high tunnel had a slightly higher yield than the low tunnel treatments. It doesn't appear that this difference is statistically significant.
 - Generally the most northern farm had the lowest overall yields, the most southern farm had the highest yield and the farm in between had moderate

yields. This could also be related to ginger-growing experience or the fact that the northern farm had a power failure on an a cold night in mid-September and so missed 6 weeks of growing that the other two farms benefitted from.

- We learned that at least in this very extended warm fall season (2016) there was not really any reason to go to the work of installing the foam board, and perhaps not the heating coil either. The ginger planted in the foam board plots did not produce enhanced production values or amounts as compared to the low tunnel with a heating coil, or the plain low tunnels. Installing the foam board each year, and moving it to another area the next year is just not worth the time and expense.
- One farm experienced a very hard freeze (and a power failure) that ended the experiment in late September, the other two farms harvested all ginger in the final 2 days of October, but no hard frost had occurred by that date at either farm so the weather did not really stress the system before we harvested.
- Each farm tracked temperatures in a different way. The three methods were: AcuLink digital temperature trackers, max-min thermometers, and data loggers. We discussed the pros and cons of each method when we met in early January 2017.
- One farm planted a higher amount of ginger than was agreed-upon, the other two farms followed the protocol (3/4 pound of seed per treatment). Since we all measured pounds before and after this did not affect the results.
- One farm removed the low tunnel plastic for most of the summer, the other two farm vented plastic either 1 foot up on all sides, or 2 feet up.
- All farms harvested ginger by hand this year. It will be important to try new harvest methods in year two and to compare time and cost.
- November 2016 – January 2017: Based on what we learned the first year we decided to make the following changes to the experiment in the second year –
 - Put together a detailed protocol in writing and commit to following it more strictly between farms this second year
 - Discontinue the insulation treatment and replace it with growing ginger in crates (in the high tunnel) So the second year treatments were:
 - High tunnel
 - Low tunnel
 - Low tunnel with heating coil
 - Crates in the high tunnel
 - Continue to measure air temperature but also add the measurement of soil temperature. We purchased max-min soil thermometers, and max-min air temperature thermometers. So instead of daily data collection all summer, from June 15th through August 2017 we collected max-min soil and air temperature data once a week.

- More of us committed to using the Google Docs forms to enter the data as the growing season went along, instead of waiting to enter data to the end of the season.
- February- March 2017: Ginger was pre-sprouted in the growth chamber at Seven Songs Organic Farm.
- April 2017: Ginger was distributed to cooperators who planted it into flats using Cowsmo potting soil
- May 15th 2017: Ginger was planted and data collecting protocol was set up in all 4 treatments on all 3 farms
- May, June, July, and August 2017: We collected data, at the beginning of each month we weeded, hilled and fertilized the ginger. We opened and closed the high tunnel and low tunnels to keep the ginger above 50 F and below 90F (air temps), whenever possible. This is also when our new undercutter bars were being created at the machine shop at the U of M.
- September and October 2017: Collected max-min temp data daily.
- End of October 2017: Harvested all experiment ginger, noting weights of whole plants, and just root (the traditionally edible part).
- Summary of the 2017 Growing Period:
 - Soil temperature is more important than air temperature when growing ginger in Minnesota. This is fortunate because air temperature is more volatile, and soil temperature is more steady. On cool nights the soil holds higher temperatures and on very warm days the soil stays cooler than the air. Generally ginger will do well with soil temperatures in the 60's F. Soil temperatures in the 50's F, as experienced at Bossy Acres in 2017, is not conducive to ginger growth. Also, it can be snowing outside the low tunnels in the fall and the ginger in the ground can be kept warm enough to extend the season until the end of October – or longer, depending on soil temps.
 - Better communication with cooperators and an agreed upon written protocol helps greatly in aligning experiment implementation from farm to farm.
 - Bossy Acres had no ginger production in 2017. We attribute this to low temperatures and possibly low fertility in all of the treatments.
 - Seven Songs Farm's most productive treatment was the crates, followed by the unheated low tunnel. The crates were filled with compost, while the other treatments were soil with some compost – which could have been why the crate treatment did so well at Seven Songs Farm.
 - Cornercopia's most productive treatment was the unheated low tunnel, followed by the low tunnel with heating coil
 - The max-min air temperatures of the two best performing treatments (listed above) at Seven Songs Farm and Cornercopia Farm show that an air temperature range between 40F and 120F is sustainable for ginger.

- The max-min soil temperatures of the two best performing treatments on these same two farms show that over the same period soil temperatures stay between 45F and 90F, with the minimum staying above 60F most of the summer and the max staying below 85F most of the summer. Fall temps dip lower, but by then the plant is larger and appears able to take the additional low temperature stress.
- The ground heating coil made some difference in soil temperature (raising the temp 1-2 degrees) in the spring, but did not make any difference in the fall, so we don't feel it is worth installing for future ginger production.
- Low tunnels are \$2.10/sq.ft, high tunnel is \$6.02/sq.ft. So low tunnel system is cheaper to pay for, and can work for extending the ginger growing season successfully.
- Growing ginger in crates in a high tunnel may provide the best yield, and it is very easy to harvest ginger grown this way, but you do have to invest in a large number of crates if you want to grow hundreds of pounds of ginger.
- November and December 2017: Evaluated raw data, created a presentation for the MN Organic Farming Conference
- January 2018: Presented project results at the MN Organic Farming Conference, Poster created for the Midwest Organic and Sustainable Education Services (MOSES) Farming Conference
- February 2018: Poster presented at the MOSES Conference
- May 2018: Final Report, also article for Growing for Market publication is done.

Melissa Driscoll from Seven Songs Organic Farm organized regular once a month conference call meetings throughout the year, purchased and pre-sprouted the ginger for all farms, established a thorough written protocol for the project, and checked in on partner farms throughout the season, and completed all project reporting with input from other cooperators.

Courtney Tchida from Cornercopia helped us find good equipment including the max-min thermometers and worked with the U of M shop to build the under-cutter bar harvesters. Courtney attended and actively participated in every conference call throughout the project. Courtney submitted a proposal to exhibit a poster about our project at the MOSES Conference in February 2018. With input from all cooperators Courtney put together the power point presentation for the MN Organic Conference 2018, as well as a poster for the 2018 MOSES Conference.

Karla Pankow from Bossy Acres reached out to farming publications and conferences to ask if we could write an article or speak at a conference. Because of her work Courtney and Melissa spoke at the Minnesota Organic Conference in January 2018. Karla and Elizabeth from Bossy Acres are writing a Growing for Market article to be published in July of 2018. Karla attended and actively participated in every conference call throughout the project.

GOALS AND OUTCOMES ACHIEVED

We list the project activities above. These activities did allow us to maintain growing temperatures above 50F, and we learned that soil temperature is a more important measure than air temperature when assessing the upper and lower temperature limits for ginger. Low tunnels do allow for better crop rotation on the farm, and yield is roughly equal to high tunnel yield. The cost for low tunnels is lower than for a high tunnel, however they do have to be set up, taken down, and they can take longer to open and close than a high tunnel (on a per square foot basis).

There were no long term measures initially identified.

Performance Monitoring Goals

The table below shows the pounds of root planted on each farm, each year, and the production of that seed on each farm, each year of the project. The second set of tables shows which treatments produced the most ginger per pound planted, on each farm, each year.

2016																
Farm	Unheated High Tunnel				Low Tunnel w/ HC				Low tunnel w/ HC & I				Unheated Low Tunnel			
	Start	End	Yield	Ratio of harvested/planted	Start	End	Yield	Ratio of harvested/planted	Start	End	Yield	Ratio of harvested/planted	Start	End	Yield	Ratio of harvested/planted
Cornercopia	2.24	3.2	0.96	1.429	2.24	6.4	4.16	2.857	2.125	4.7	2.575	2.212	2.14	6.4	4.25	2.991
Bossy Acres	0.75	1.12	0.37	1.493	0.75	1.27	0.52	1.693	0.75	1.33	0.58	1.773	0.75	1.43	0.68	1.907
Seven Songs	3.59	11.95	8.36	3.329	4.1	13.54	9.44	3.302	4.24	12.48	8.24	2.943	4.3	14.24	9.94	3.312
2017																
Farm	Unheated High Tunnel				Low Tunnel w/ HC				Crates				Unheated Low Tunnel			
	Start	End	Yield	Ratio of harvested/planted	Start	End	Yield	Ratio of harvested/planted	Start	End	Yield	Ratio of harvested/planted	Start	End	Yield	Ratio of harvested/planted
Cornercopia	1.37	3.16	1.79	2.31	1.37	4.12	2.75	3.01	1.37	3.92	2.55	2.86	1.37	5.95	4.58	4.34
Bossy Acres	1.01	0.98	0	1	1.04	1.01	0	1	1.074	1.05	0	1	1.024	1	0	1
Seven Songs	0.85	2.83	1.98	2.329	0.85	2.02	1.17	1.376	0.84	6.52	5.68	6.762	0.83	4.24	3.41	4.11
Yields include mothers in all treatments																
2016																
Farm	Cornercopia				Bossy Acres				Seven Songs				Seven Songs			
	Best	Unheated Low Tunnel	Insulated Low Tunnel	High tunnel	Best	Unheated Low Tunnel	Insulated Low Tunnel	High tunnel	Best	Unheated low Tunnel	Crates	Unheated low tunnel	Best	Unheated low Tunnel	Crates	Unheated low tunnel
Seven Songs (unlike that differences between any 75F treatments are significant)																
Bossy (no production in any treatment)																
Worst: High Tunnel, High Tunnel, Insulated heated low tunnel																

Plant vigor and health photos

2016 Season	Seven Songs	Cornercopia	Bossy Acres
April			

<p>May</p>			
<p>June</p>			
<p>July</p>			
<p>August</p>			

September			
October			

2017 Season	Seven Songs	Cornercopia	Bossy Acres
May			
June			

<p>July</p>			
<p>August</p>			
<p>September</p>			
<p>October</p>			

Time Spent Managing Treatments

During the 2016 season it took each farm 3 people days to install the treatments, then daily measurements took between 15 minutes to half an hour per day per farm. Once a month weeding and fertilizing took 45 minutes per farm. Data collection and collation took between 8 and 24 hours at the end of the season.

Crop Rotation

We found that mobile low tunnels are an inexpensive and flexible way to protect and shade ginger, while maintaining good crop rotation for certified organic operations.

Root Digger

We were not able to harvest ginger with the root digger because the diggers took much longer to create at the U of M shop than we anticipated, and then conditions were too wet for Seven Songs Farm to use their root digger, and Cornercopia had a crop failure due to hail in June where they had planned to use the root digger. Therefore we were not able to really test the root digger for ginger, although Cornercopia Farm tested it on leeks with good success.

Goal 1: To grow certified organic ginger profitably without a high tunnel.

We accomplished this goal on two of the three farms. In Northern Minnesota we recommend that ginger be planted out later, that low tunnels stay closed for more of the season and more of each day, with a goal of keeping the soil temperatures at 65F or higher.

Goal 2: To harvest larger amounts of ginger efficiently while maintaining ginger quality. (Please note that although ginger is a huge crop in other countries, in those cases ginger is harvested when it is mature and has a protective brown "skin" on the root. In Minnesota the crop is harvested at the "baby ginger" stage where there is no "skin" on the root and it is vulnerable to bruising.)

The under-cutter bars took longer to have manufactured than we realized initially, so they were not ready for Seven Songs Farm ginger harvest. Cornercopia Farm was able to use the undercutter bar with good success on leeks, a crop that grows at a similar depth to ginger. They lost their non-covered ginger crop to hail in June of 2017, which they had planned to test the under-cutter harvest bar on.

Measurable outcomes were:

- The number of specialty crop growers with an increased knowledge of ginger production in the Upper Midwest, as measured by pre- and post-workshop surveys from the Midwest Organic and Sustainable Education Service (MOSES) Conference Workshop participants. The MOSES Conference is held annually in LaCrosse, WI.
 - Our presentation proposal was not accepted into the MOSES Conference but we did speak at the 2018 MN Organic Conference, in January, in St. Cloud, MN. These were our pre- and post-presentation survey results (20 responses):
 - 84.2% of the participants had never grown ginger

- Of the participants - 80% felt that their knowledge of growing ginger increased by 90% or more, 13.3% felt their knowledge increased 50% or more, and the rest experienced a 25% increase in knowledge
- Before the presentation people really had no idea when to plant ginger outside (answers were equally spread throughout the spring and summer months, with a bit more focus on early, ie. April). After the presentation 9 of the 20 said Mid-May to June.
- Before our presentation we asked in our survey “What are the ideal growing conditions for a successful ginger crop?”. Of the answers “shade” was mentioned twice, “soil temperature” was mentioned twice, “warm and moist” was mentioned 6 times. “Lots of luck” and “no clue” were other answers. Post-presentation answers were much longer and more detailed with soil temperature of 60+ degrees mentioned in 12 responses, and if you add the more general answer of “warm soil” you get 16/20 attendees noting it as a requirement.
 - Courtney presented a poster of our results at the MOSES Conference in late February 2018, and Melissa stood by her to help answer questions during two different poster presentation hours. We engaged 20-30 other producers in discussions about the project, and what we learned about growing conditions for a healthy ginger crop in the upper Midwest.
- Soliciting feedback and change of knowledge increase from our Growing for Market article readers will also give us a measure of the impact of our published results.
 - Our Growing for Market Article will be published in October 2018.

BENEFICIARIES

Seven Songs Farm is buying ginger seed for 6 local growers each year, and mentoring them as to ideal growing conditions. Cornercopia Student Organic Farm is training 15 students annually about growing ginger. The Growing for Market Article will reach 5000 subscribers, who are mostly small and medium-sized vegetable and flower growers. So if you add up the conference workshop attendees, poster session attendees, personal interactions when mentoring new growers, and the article, we will have reached 5,071 people directly over the course of the project.

Our data shows that a baseline average soil temperature for the season needs to be above 60 degrees F to grow ginger successfully in Minnesota. We also calculated that low tunnels are a cheaper growing system than high tunnels. High tunnels cost roughly \$6.02 per square foot versus low tunnels costing \$2.10 per square foot.

LESSONS LEARNED

- It is somewhat challenging to use consistent experimental protocols across farms that are geographically distant from each other. Farmer-led projects such as ours should put together very specific protocols before the first year of the projects, and continually encourage good communication about changes to protocol. Farmer's with a science background may look at the importance of this aspect differently than farmers with other backgrounds.
 - It is hard to hire part time interns in a rural area. Most college-age people who are interested in on-farm internships want to work full time. If a farm already has workers who can contribute some time to the project that may work better than trying to hire someone just for the project.
 - Do some research about what kind of internet connection each farm has, (on each field even!) before assuming that an internet-based data collection system would work well on each farm.
 - Be willing to change what you are measuring in the second year, if you think it is important.
 - In the second year planting into crates in the high tunnel was successful, but is it scalable financially? That might be a good topic for future research.
 - We should have taken soil tests at each farm prior to the project. We are not sure how much of the success of treatments on some farms over others had to do with soil fertility.
 - Order measuring equipment that is easy to use and can withstand outdoor use. Our watt-measuring device was way more complicated than we needed, and it ended up being hard to get consistently good data from it because it had too many features.
 - If you are having equipment built for the project be sure to start that right away. We wish we had thought ahead more and gotten the new under-cutter bars completed earlier in the project.
-
- It was really exciting to learn that soil temperature is more critical to ginger production than air temperature. I think most of us just think about air temperature....when we look at upcoming weather and how it might affect the crop. Also, I was worrying that the temps inside the low tunnels was getting too high; well, air temps were high but soil temps were more moderate, and the ginger seemed to be fine despite some very high air temperatures during each of the two seasons.
 - With this high value crop it is important to have some kind of covering. Cornercopia lost a large amount of ginger to hail when they decided to not put a low tunnel over some of their non-experimental ginger. The ginger did not recover.

ADDITIONAL INFORMATION

Project results were published in the October issue of Growing for Market at <https://www.growingformarket.com/> ; the article is titled *You don't need a high tunnel to grow ginger* by Melissa Driscoll, Courtney Tchida and Karla Pankow and is pasted below.

This research will also be mentioned during a presentation at MOSES Conference in 2019 titled *How to Grow and Market Ginger and Turmeric*

You don't need a high tunnel to grow ginger

By Melissa Driscoll, Courtney Tchida and Karla Pankow

Local and organic ginger is a high-value crop that in the right market can be in high demand. Growing this tropical crop in the Midwest can be a challenge, and thus far, farmers thought they had to own a high tunnel to ensure adequate heat during the variable spring and fall seasons. High tunnel space on most farms is at a premium, so it is expensive space to devote to a long-season crop.

This was the predicament for Melissa Driscoll of Seven Songs Organic Farm. Melissa was growing ginger as part of a four-year crop rotation in her high tunnel. She found a healthy market for ginger and wanted to expand production outside of the high tunnel, not only to save on the expense of building a new tunnel, but also to more easily rotate where ginger is grown throughout her farm.

In conversations with Courtney Tchida at Cornercopia Student Organic Farm, and Karla Pankow at Bossy Acres, the idea of trying to grow ginger outside of the high tunnel started to evolve. With cooperator farms in southern (Kenyon), central (St. Paul), and northern (Bruno) Minnesota, they would also learn how different climatic locations affect how well their alternate methods would work.

In 2015, the three cooperating farms applied for and received a Minnesota Department of Agriculture Specialty Crop Block Grant to experiment with different low tunnel set-ups compared to the standard high-tunnel production model. They had the goal of creating a cost-efficient model for growing ginger in the upper Midwest that would create better crop rotations, lower overhead costs, and meet the demand for this specialty crop.

All three farms sourced their Hawaiian Yellow Ginger from Biker Dude (also called Puna Organics or the Hawaii CleanSeed Project). The experiment ginger was pre-sprouted at Seven Songs Farm in their homemade growth chamber at 75 degrees F for six weeks (in coir), then distributed to the other partner farms to be put in flats with potting soil and kept at 50F or above until the seedlings were planted into the experimental treatments in mid-May.

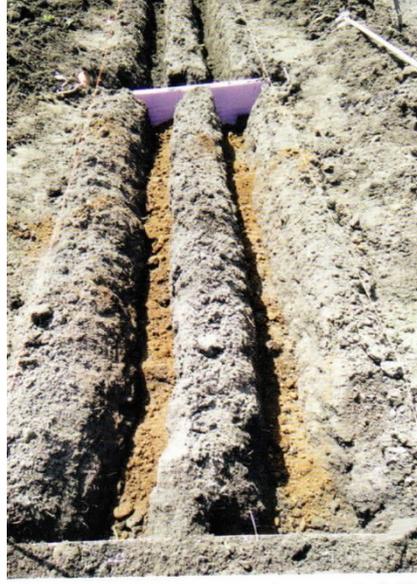
Year one

In 2016 the treatments used were:

- Unheated high tunnel
- Unheated low tunnel
- Low tunnel with soil heating coil buried under the ginger
- Low tunnel with soil heating coil buried under the ginger and closed cell foam insulation buried to a depth of 18" on all four sides of the low tunnel

The protocol for creating the low tunnels was to dig a 12-inch trench down the middle of each area where the 4 ft x 10 ft low tunnels would be placed and lay heating coil in two of the trenches, bury 2-inch foam insulation around the edge of one of the tunnels, and leave the third as a plain old low tunnel.

Ginger was planted in the trenches, then covered with two inches of Cowsmo compost, and watered in. Two farms installed drip tape on a timer (1-2 hours per day depending on soil type and weather),



Upper Left, ginger was sprouted for six weeks at 75F in coir, then planted into trenches. The upper right photo shows 2" thick insulation that was buried around some treatments. Lower left photo shows two finished treatments, with and without insulation.

and a third farm performed hand watering as needed. Hoops were placed over the trenches and covered with plastic.

Three quarter pounds of ginger seed was planted in each treatment on each farm in mid-May. Both years a Google form was used to collect data on all three farms. Data collected included: air temperature (maximum & minimum), electricity used for the heating coil (during spring and fall), how much water was applied through irrigation, and if and when the low tunnels were opened and closed.

In 2016, the yield results show that the unheated low tunnel produced the most ginger for two of the three producers (highest ratio of pounds harvested versus pounds planted). The third producer had very even production across the treatments, so there is probably not a statistical difference between treatments on Seven Songs Farm for 2016.

A confounding factor in 2016 was that Bossy Acres had an electrical failure so that when an early hard frost hit the area in the second week of September, the heating coil did not go on, all of the ginger leaves died, and the ginger was harvested and weighed at that time instead of in late October. None of the farms felt that if the goal was to harvest on October 31st, that digging the trenches necessary for putting foam insulation around the ginger growing area under the mini hoop was worth the time. Thus, we did not continue this treatment for year two. Two of the farms had grown ginger in crates (outside of the experiment) with good success and a super easy harvest so we included that idea as a treatment in the second year.

Year two

In 2017 each farm planted $\frac{3}{4}$ lbs. ginger in mid-May in each of the following four treatments:

- Unheated high tunnel Unheated low tunnel
- Low tunnel with soil heating coil buried under the ginger
- Crate in the high tunnel

After the first season of data was analyzed, it was discovered that air temperature data didn't really provide a good picture of what was happening in the root zone so in 2017 max-min air thermometers and max- min soil thermometers were used in each treatment. This allowed data to be collected once a week all summer, reducing daily data collection to May 15th through June 15th, and September 1st through the end of October. Adding minimum-maximum soil thermometers provided a much better picture and understanding of how the ginger reacts to temperature fluctuations.



Above, ginger is seen growing with snow outside the low tunnel. To the right is ginger grown in a crate, in a hoophouse.

For the 2017 experiment season, additional protocols were standardized on all farms. On June 1st, ginger was weeded and fertilized with Neptune's Harvest Fish & Seaweed- using $\frac{1}{8}$ cup of the fertilizer for one gallon of water. For July 1st, hilling and weeding in addition to fertilizing the ginger was implemented. The weed, hill, fertilize protocol was implemented on the 1st of each month in August, September and October. At the end of October, each farm harvested all ginger from each treatment, washed it, and recorded weights - both the whole plant as well as the root only.

Corncropia Farm's best performing treatment was the unheated low tunnel, followed by the low tunnel with heating coil. Bossy Acres essentially had a crop failure with none of the treatments producing a measureable yield. Seven Songs Farm had success with the crates, with the second best treatment being the unheated low tunnel.

Growing in crates made harvesting much easier than digging by hand. However, cooperators question how economical it would be to scale up this system. There was also the realization that the ginger grown in crates wasn't being grown in the same soil as the other treatments and instead was grown in 100% Cowsmo Compost which might have given it an unfair fertility boost.

After looking at the data, it was clear to see why Bossy Acres had a crop failure in 2017. When you compare the soil temperatures at Bossy Acres with the other two farm's

The big news is you do not need to invest in a high tunnel to grow excellent ginger, even in Minnesota.

soil temperatures, all for the unheated low tunnels, you see that at Bossy Acres the soil temperature seldom, if ever, was higher than 60F. The other two farms had soil temperatures between 60 and 85F throughout the summer months.

Also, the general wisdom about growing ginger is that it doesn't like very hot or very cold

temperatures. We had assumed that this meant that air temperatures should not be very high or very low. However, we found that air temps can go very high and quite low, as long as soil temperatures stay within a narrower range. By late October of 2017 Minnesota was experiencing 35F air temperatures in the low tunnel (with snow falling outside) while the ginger was still green and growing (and appeared unaffected by cool air temperatures) in the low tunnels and data shows the soil temperatures were still in the 50's.

Challenges

Performing an experiment on three different farms while doing everything else on the farm (and with off-farm jobs) can be challenging. These were the challenges that occurred:

Finding part time interns was hard for some farms. Best to use your regular staff for any grant-funded experiment you try (unless you are a student farm already!).

- Even after agreeing on protocols, it was hard for every farmer to be consistent on every protocol. Even the PI goofed in year 1 and planted twice as much ginger in the experiment than what was agreed to.
- Initially Acu-Rite remote sensing thermometers were planned to be used on all farms, but spotty internet access, and fields far from electricity sources made this technology not as useful as the simpler max-min thermometers read by a person.
- One farm tried a data logger, and while it seemed promising initially, did not do well under field conditions.

Hail and high winds challenged the low tunnels. The mentality of experiment protocol versus farming profitability. For research purposes it was agreed that each farm needed to push the ginger season to the end of October. As farmers, our tendency is to harvest before the frost, so it was hard to watch a crop fail, in order to follow our agreed-upon protocols, especially such a high value crop.

- Soil tests on all farms should have been taken before the experiment, as the results don't reflect how the base soil fertility on each farm contributed to ginger growth.
- It is better to enter data every day than to wait until the end of the season and enter it in onesitting.

Conclusions

The big news is you do not need to invest in a high tunnel to grow excellent ginger, even in Minnesota. Here is what you need:

Low tunnels created with 10' electrical conduit, low tunnel benders, 6 mil plastic (used plastic from when you replace your hoophouse plastic works fine), stakes and rope.

Good soil with high fertility, plus added fertility throughout the season.

Make sure your soil temperature is above 60F, and it can be as high as 85F during the growing season.

Soil temperature is more important than air temperature.

Automatic watering ensures that ginger gets the moisture it needs.

The low tunnel provides the shade and protection from the elements that ginger needs.

Although a number of challenges were encountered along the way, the results are encouraging. The answer to the question, "Can you grow ginger in Minnesota without a high tunnel?" can be a resounding yes, as long as certain best practices are put in place.



Ginger harvest from the low tunnels.

Melissa Driscoll of Kenyon, MN was the Principle Investigator. She has been the farmer/owner of Seven Songs Organic Farm for 7 years, with 6 years of ginger growing experience and 5 years of turmeric growing experience .

Karla Pankow and Elizabeth Millard run Bossy Acres in Bruno, MN. Bossy Acres has been an organic vegetable farm since 2011, now expanding into livestock and perennials . They were first time ginger and turmeric growers for the 2015 growing season.

Courtney Tchida of Cornercopia Student Organic Farm, St. Paul, M N, has been the Farm Manager for twelve years.

Project 6

MN Specialty Crop Block Grant – Federal Fiscal Year 15

FINAL PERFORMANCE REPORT

Contact: Molly Schaus, Farm Director, Minnesota Food Association

Organization: The Food Group, dba Minnesota Food Association

Contact information: molly@mnfoodassociation.org

PROJECT TITLE

Improving Production Efficiency to Increase Marketability of Traditional Asian, African, and Latino Specialty Crops

PROJECT SUMMARY

Minnesota Food Association (MFA) has been working with immigrant farmers since 1998. The trend we have seen is that when immigrant farmers begin farming in Minnesota, they grow many traditional crops. However, with the cost of production and what the market pays, they grow less every year and begin growing more western crops, where the market pays more.

Typical markets for local produce, such as restaurants and farmers markets, have expressed interest in traditional ethnic crops, but actual sales are very low. Additional marketing, such as free samples and marketing materials like recipe cards are needed to push this expressed interest into substantial sales. Immigrant farmers want to grow crops that are important to their culture, there is a demand for these crops in underserved communities and there is an interest in these crops in growing markets. Improved efficiency would allow lower prices and targeted marketing efforts would boost sales.

Most crops grown in immigrants' countries of origin are heat loving; a formidable yet addressable challenge to farming in Minnesota. Without knowledge of or access to equipment to streamline production of traditional ethnic crops, cultivation, harvesting and post-harvesting labor

requirements can make these traditional crops so expensive, they are not accessible by those who desire them most. This project will focus on five traditional crops: Daikon, Roselle, Hanchotte, Peppers (ethnic varieties) and Asian Eggplant. Use of special purpose equipment and other production practices to improve efficiency and yields will enable growers to lower their prices.

Lower prices along with training and targeted marketing efforts in both immigrant communities and western markets (restaurants and farmers markets) will increase demand for locally grown traditional ethnic crops, and increase sales of these crops for immigrant specialty crop growers. Production improvement and marketing activities will be documented and evaluated to assess their impact on yield and sales for immigrant farmers and to share outcomes with farmers in the area who want to improve their traditional crop production and marketability.

According to Minnesota Compass, there are over 400,000 immigrants in Minnesota, nearly 80% of them live in the Twin Cities Metro Area and most come from Asian, African and Latin American countries of origin. New Americans bring both strong agricultural and rich culinary traditions to their new home. Many are proud to continue their farming and cooking traditions but knowledge of ideal production methods for our climate and access to affordable traditional crops is a challenge. Many studies have shown the importance of traditional and familiar foods to immigrant communities' health and well-being indicators. Like native-born Americans, immigrants and immigrant farmers love to grow and cook crops they grew up with, know how to prepare and provide the health benefits they need.

The demand for fresh, traditional produce is strong in the Twin Cities Metro area, and immigrant farmers are passionate about growing produce that is known to them and feeds their community. Many consumers of these traditional crops have limited food budgets. A major obstacle to access for them is the price farmers much charge to make growing and selling traditional crops viable economically.

This project has the potential to impact many immigrant communities in the Twin Cities Metro area. It will improve farmer production practices, sales and increase consumer demand and access to traditional ethnic crops.

Minnesota Food Association received SCBG grant in 2014 for Food Hub Strategic Development. Through this grant, Minnesota Food Association engaged in a strategic development process to explore the need and potential for offering expanded food hub services such as aggregation, sales and distribution to other beginning minority and immigrant farmers growing organic vegetables throughout the Twin Cities metro area. The literature review, survey of national food hub models, and local-market analysis completed in this project led to recommendations for MFA's food hub that included further exploring marketing specialty cultural foods (such as Asian, Latino and African crop specialties) as one strategy for maintaining and expanding into a diverse mix of markets. The current project builds upon this recommendation from the past project by seeking to increase production efficiency and marketability of culturally-specific specialty crops.

PROJECT APPROACH

Significant accomplishments and results include the training of farmers on equipment purchased for specialty crop production, delivery of a farmer-taught field day and one farmer-taught session at the 13th Emerging Farmers Conference on production techniques for African crops, and the creation of a production guide for the five specialty crops focused on in this project: Asian eggplant, daikon radish, hanchotte, hot peppers, and roselle. We also incorporated four of the five focus crops into our 2017 CSA—daikon radish, roselle, hot peppers, and Asian eggplant—and created recipe cards to help introduce our CSA members to these crops.

Significant promotion of these crops at farmers markets took place in 2016 and MFA was specifically selected to participate as a vendor at the Mill City Farmers Market in 2017 for having culturally specific crops.

In the first year of the grant (2016), we purchased four specialized pieces of production equipment—a plastic mulch layer, waterwheel transplanter, brush washer, and undercutter—and began training farmers to use that equipment. Training was offered to farmers on how to use this equipment during group skill sessions at the start of the season, and a field day open to farmers from the community in May which was attended by 22 farmers. Seven farmers in the MFA incubator program grew one or more of the traditional crops identified for this project during the 2016 season, and marketing outreach efforts were made to expose new audiences to these crops. The City Pages food editor toured the farm, spoke with farmers and wrote an article about the specialty crops farmers were growing.

In the second year of the grant (2017), we built upon training on the specialized production equipment by delivering in-depth teaching on equipment use to more than 10 farmers during both group learning (1 skill session and 1 class) and 1-1 technical assistance. Adoption of this equipment increased in 2017, and in evaluation conversations farmers commented on its benefits. One farmer commented on the plastic mulch layer and waterwheel transplanter: “Plastic mulch with hanchotte helped a lot in keeping weeds down [...] using the transplanter was very, very useful to me.” And another farmer commented: “It was good – the equipment works really well – makes it faster, washes things better – for me it was faster to have something automatic to do the things for me – buying this equipment is one of the best things we have done that’s useful for everyone.”

In September 2017, we delivered a field day on Growing & Selling African Crops in Minnesota, which was taught by two farmers in the MFA community. Twenty people registered for the class, and 13 attended, drawing farmers from MFA, the Twin Cities, and a group of visiting dignitaries from Somalia. The class began at Big River Farms, and traveled to nearby farm of Choua Yang. Participants learned how two farmers have built up their businesses by growing and selling bitter ball and hanchotte, two traditional African crops, here in the cold climate of Minnesota. We toured the farms of Kano and Choua who demonstrated and explained the practices they use to effectively grow, harvest, store, and market these rare vegetables. Farmer comments on lessons learned include: “plant what you can sell - specialty is different;” “grow more, start small, and work up;” “Organization!” and “Find your niche.”

In October 2017, under the direction of the Food Hub Manager, we created a production guide for our five focus specialty crops in the form of a calendar. The calendar features color photos, recipes for each specialty crop commissioned from farmers and local chefs, production tips for each crop, and quotes from farmers about growing and marketing these specialty crops. We believe that creating a production guide in the form of a calendar has been a popular and exciting way to share the information that we learned during the grant period. We printed 500 calendars and have distributed them to our CSA members and at our harvest celebration in October 2017.

As stated in the accepted proposal: “Project results will be compiled in a guide and shared with the broader farming community in Minnesota through Minnesota Food Association’s broad network of farmers, agency collaborators and nonprofit partners. The guide will include project outcomes and recommendations for specific production and marketing improvements for farmers growing traditional crops.” The grant budget included \$2000 for the printing of our specialty crop production guide. The printing of 500 calendar production guides cost \$2831.72. The additional \$831.72 was reallocated from the printing and production of recipe cards, which had a surplus of \$1500. These expenses were explained in the September 2017 and October 2017 invoice reports to the MDA.

We believed that a calendar—which contained specific production tips, farmer testimonials, and recipes highlighting the five specialty crops of focus—would be a more engaging way to disseminate information, increase consumption of the specialty crops, and celebrate the presence of these crops in our community than a more traditional production guide would have been. We wanted to create a document, the calendar, that would meet all the stated objectives of a production guide and be highly accessible and engaging to the broader farming audience.

Since our last annual report, we also distributed the calendars to the 250 participants of the 13th annual Emerging Farmers’ Conference, which took place on January 26th and 27th 2018, at the University of Minnesota. The calendar was included in each participant’s packet of information that they received as they registered for the conference. Indeed, we were able to distribute all 500 calendars throughout our network!

At the Emerging Farmers Conference, two farmers who have participated in the Farmer Education Program, Kano Banjaw of Rome Organic Farm and Choua Yang, presented a session on their experiences growing and selling bitter ball and hanchotte, two traditional African crops, here in the cold climate of Minnesota. This 1.5 hour session took place in the afternoon of Saturday, January 27th and was attended by 28 conference participants. The session included production and marketing advice for these two specialty crops that have been in high demand in the Ethiopian (hanchotte) and West African communities (bitter ball).

This project was primarily a partnership between the farmers at Big River Farms and the staff at Minnesota Food Association, which operates the training farm and food hub. Outside participation was limited, but included roles for CSA members, and wholesale buyers of the ethnic crops.

The 13th annual Emerging Farmers Conference was planned collaboratively between Minnesota Food Association, The University of Minnesota Extension, USDA—Natural Resources Conservation Service, USDA – Farm Service Agency, farmers, The Good Acre, Latino Economic Development Center, and the Hmong American Partnership.

GOALS AND OUTCOMES ACHIEVED

Goal/Outcome: Enhance the competitiveness of specialty crops through increased access and awareness. **Indicator:** Number of individuals (growers) that gained knowledge in how to produce the ethnic specialty crops identified.

Farmers who focused on specialty crop production at Big River Farms received the most significant training. In 2016 seven farm teams grew the target specialty crops, and in 2017 five of these farmers continued producing these crops. All five of these farmers reported gaining knowledge in how to produce hanchotte, roselle, daikon radish, hot peppers, and/or Asian eggplant in year-end evaluations in 2017. Specific examples of knowledge gained are included in our production guide.

In addition to the farmers at Big River Farms, a wider audience of growers gained knowledge on the five target specialty crops through distribution of the production guide calendar at the 13th Emerging Farmers Conference. The calendar was distributed to 250 conference participants, as part of their registration packet. Additionally, 28 growers gained in-depth knowledge on growing and marketing hanchotte and bitter ball through the farmer-led session on this topic at the conference.

In total we estimate that 292 individual growers gained knowledge on the production of the target ethnic specialty crops through this project: 22 growers who attended the 2016 field day, 7 farmers growing the target crops at Big River Farms, 13 participants in the 2017 field day, and 250 participants at the Emerging Farmers Conference.

Goal/Outcome: Enhance the competitiveness of specialty crops through greater capacity of sustainable practices of production resulting in increased yield, increased efficiency, increased economic return, and/or conservation of resources. **Indicator:** Number of growers indicating adoption of recommended practices for production of ethnic specialty crops

Actual Accomplishments: In 2017 year-end evaluation interviews, all five Big River Farms farmers engaged in the program indicated they had adopted some of the recommended practices for production of ethnic specialty crops. The most common adopted practice was the incorporation of the equipment purchased in the first year of the grant (2016). Farmers reported being more eager to adopt use of this new equipment after having seen it demonstrated and used by fellow farmers in the year prior.

Goal/Outcome: Big River Farms growers will improve sales and marketability of the 5 traditional crops included in this project. Targets: Increase sales by 25% each year.

Actual Accomplishments: BRF farmers sell their specialty crops both through BRF's Food Hub (CSA/farmers market/wholesale channels) and through independently established markets. For both years of the grant, we have good records for sales of the five specialty crops through the BRF Food Hub, but were unable to get records of the dollar amounts of farmers' independent sales of specialty crops. In the Food Hub, BRF primarily marketed and sold the specialty crops through the CSA. Farmer income for the five specialty crops sold through the BRF Food Hub was \$1493 in the 2017 season, compared to \$1986 in the 2016 season. However, the specific circumstances of each growing season cloud our ability to intuit much from this lower sales number. For example, one farmer who sold hanchotte to the Food Hub in 2016 decided not to sell it to the Food Hub in 2017, because the demand for hanchotte in his community was so great. This farmer reported \$5,000 in individual sales in 2017. The number of farmers growing specialty crops varied from year to year as well; for example only one of the two farmers who grew roselle in 2016 returned for the 2017 season. In retrospect, trying to meet a numerical goal for sales of the five traditional crops was probably not the best way to measure the success of the growers.

Goal/Outcome: Immigrant farmers in the Twin Cities Metro will have access to training and resources to improve the production and marketing of traditional ethnic crops. Target: 250 immigrant farmers.

Actual Accomplishments: In 2016 seven farmers in MFA's training program grew the target specialty crops, and in 2017 five of these growers continued to produce these crops. These farmers received intensive 1:1 training and group skill sessions. We trained an additional 35 growers through two field days, one in 2016 and one in 2017. During the 13th Annual Emerging Farmers conference in January, 2018 250 conference participants received the production guide for ethnic specialty crops and 28 of these growers attended a farmer-taught workshop on focused on growing and selling African Specialty Crops in Minnesota. Of the conference participants, 104 self-identified as an immigrant farmer or farmer of color. In total we estimate that 146 immigrant farmers or farmers of color gained access to training and resources to improve the production and marketing of traditional ethnic crops through this project.

The grant period for this project was extended, with approval from MDA, from December, 2017 to February 2018. The grant was extended through February to support the activities planned for the 13th Emerging Farmers Conference, which took place in January, 2018. Our goals for January-February 2018 were to: increase access to training and resources to improve the production and marketing of traditional ethnic crops for Immigrant farmers in the Twin Cities through distributing the specialty crop production guide to approximately 200 growers at the conference. We also aimed to further raise awareness about production of ethnic specialty crops through delivering a farmer-taught session on production and marketing of traditional African specialty crops at the Emerging Farmers Conference. Both of these goals were accomplished. The production guide was distributed

to 250 participants at the Emerging Farmers Conference and the farmer-led session on specialty crop production was delivered as planned with 28 participants in attendance. This workshop was led by two growers in the BRF community, Kano Banjaw and Choua Yang, and was based on the production and marketing techniques they learned and practiced as a result of this grant.

Baseline sales of the five focus crops in project year 1 (2016):

Crop	CSA	Farmers Market	Wholesale	Total Amounts	Market Price	Total Sales by food hub	Farmer Price	Farmer Income
Asian Eggplant	350 lbs	70 lbs	40lbs	460 lbs	\$2.50/lb	\$ 1,150.00	\$1.25/lb	\$ 575.00
Daikon Radish	650 ea	20 ea	15lbs	~350 lbs	\$2.50/lb	\$ 875.00	\$1.25/lb	\$ 437.50
Hanchotte	108 ea	-	-	42 lbs	\$6.00/lb	\$ 252.00	\$3.00/lb	\$ 126.00
Hot Peppers	284 lbs	20 lbs	-	304 lbs	\$3.00/lb	\$ 912.00	\$1.50/lb	\$ 456.00
Roselle	212 bunches	40 bunches	-	252 bunches	\$3/bunch	\$ 783.00	\$1.50/bunch	\$ 391.50
Total						\$3,972.00		\$1,986.00

The sales data we gathered for year 2 of the project, 2017, reflects the sales through our Food Hub of the five traditional crops. The Food Hub only distributed these crops through our CSA in 2017. This chart does not reflect sales that each farmer made through their individual markets, which is data that we were unable to collect because of the cloudiness of each farmers' record-keeping systems. We are working on making adjustments to our curriculum that will improve farmer record keeping practices.

CSA sales of the five crops in project year 2 (2017):

Crop	Frequency (weeks of CSA)	Quantity	Market Price	Total Sales by food hub	Farmer Price	Farmer Income
Asian Eggplant	6	500 lbs	\$2.50/lb	\$1,250	\$1.25/lb	\$600
Daikon Radish	3	500 lbs	\$2.50/lb	\$1,250	\$1.25/lb	\$510
Hanchotte	0*		\$6.00/lb	\$0.00	\$3.00/lb	
Hot Peppers	4	200 lbs	\$3.00/lb	\$600.00	\$1.50/lb	\$300
Roselle	1	60 bunches	\$3/bunch	\$180.00	\$1.50/bunch	\$83
Total				\$3,280		\$1,493

BENEFICIARIES

In total we estimate that 292 individual growers gained knowledge on the production of the target ethnic specialty crops through this project: 7 farmers growing the target crops at Big River Farms, 22 growers who attended the 2016 field day, 13 participants in the 2017 field day, and 250 participants at the Emerging Farmers Conference.

The 7 farmers who participated in the intensive 1:1 training on the ethnic specialty crop production at Big Rivers Farms are all immigrant farmers or farmers of color. This group included farmers who are Hmong, Guatemalan, African American, Karen, Oromo, Bhutanese (2016), and Somali (2017), and veteran.

Participants in the field day in 2016 included additional farmers in the Big River Farms Farmer Education program and other farmers and community members. Our 2017 field day drew farmers from MFA, the Twin Cities, and a group of visiting dignitaries from Somalia.

The participants at the 13th Annual Emerging Farmers Conference included farmers, farm-agency workers, and community members Minnesota, Wisconsin, Iowa, Kansas, Illinois, Missouri, and South Dakota. Interpreters translated conference sessions into seven languages: Hmong, Karen, Kirundi, Nepali, Somali, Burmese and Spanish. Of the 250 participants, 125 were farmers, 83% of whom self-identified as an immigrant farmer or farmer of color.

Challenges with farmer record-keeping and farmer variability between the two years of grant made it difficult to measure to effectively measure the exact economic impact of the project in terms increasing sales of the five target specialty crops between the two years of the project. This is discussed in further detail elsewhere in this report. While sales through the BRF Food Hub of the five traditional crops included in this project decreased from \$1986 in 2016 to \$1493 in 2017, we have reason to believe that overall sales of the crops increased since one farmer reported \$5,000 in sales to his own markets of hanchotte in 2017.

LESSONS LEARNED

One of our main challenges in this project was accessing records from farmers to be able to accurately measure sales increases year over year, when those sales were to farmers own markets, outside of the Big River Farms food hub. One of our primary lessons learned from facing this challenges is that we need to improve the aspects of our Farmer Education Program curriculum that focus on teaching financial and harvest record keeping practices. We plan to work on creating better tools and systems to encourage improved farmer record keeping in 2018 and beyond, in part through looking to develop or adapt some electronic farm-record keeping systems for English language-learners that would facilitate more consistent record keeping.

Another point of learning that was reinforced by this project is that farmers learn by doing and seeing other farmers implement new practices or equipment. In the second year of the more farmers adopted equipment bought for specialty crop production because they had seen MFA's Farm Director, Molly Schaus, or other farmers in the program use the equipment. Farmers were a bit hesitant to risk crops with new techniques in the first year, but were more excited to use the

equipment in the second year, once they had seen it demonstrated successfully. From this we are reminded of the need to continually offer demonstrations of new equipment, techniques, and specialty crops to the farmers in our program in order to encourage adoption. We are excited for the development our new growing site at Harvest Park in Maplewood, MN in 2019 in part as a site to demonstrate new techniques to farmers, including mechanical cultivation and alternative weed control techniques.

Another learning from the project, is that as farmers weigh the benefit of using supplies like plastic mulch, they sometimes decide not to use them because of the up-front costs, even when in the long term this might create a financial benefit. For the specialty crop production during this project, MFA offered use of plastic mulch, equipment, and other supplies for free, but we need to continue to think of ways to demonstrate the long-term financial benefits of their use to ensure that farmers would adopt these practices when they had to cover these costs themselves. Paying for up-front costs can be a real barrier for the farmers in MFA's Farmer Education program, so we also may need to explore other financial mechanisms, such as micro-loans, which might allow farmers to make these needed purchases at the beginning of the season.

The equipment that was bought to increase the production of specialty crops had benefits for farmers in MFA's Farmer Education program beyond increasing production of just the five target ethnic specialty crops. For example, the use of the brush washer allowed farmers Lue and Kia from the Early Birds Farm to fulfill a wholesale order with the St. Paul Public School District for 1,200 lbs of carrots to be used in school lunch programs.

The adoption of the equipment went beyond farmers currently in MFA's program. For example, Rodrigo Cala, of Cala Farm, requested the plans for the undercutter from MFA staff in 2017 after seeing this tool demonstrated at Big River Farms in 2016.

Because of the challenges of farmer record-keeping and farmer variability between the two years of grant, it was not possible to effectively measure progress against the original objective of Goal 2: Big River Farms growers will improve sales and marketability of the 5 traditional crops included in this project, specifically the target: Increase sales by 25% each year. While sales through the BRF Food Hub of the five traditional crops included in this project decreased from \$1986 in 2016 to \$1493 in 2017, we have reason to believe that overall sales of the crops increased since one farmer reported \$5,000 in sales to his own markets of hanchotte.

The number of growers who participate in our program is not steady from year to year, and they change their crop plans to reflect their expected markets. This variability in number of producers and the amount of land devoted to these five crops made tracking production and sales increases/decreases year over year difficult.

The other key impediment was challenges with record-keeping in to conduct evaluation of the project as planned. The farmers that participated in this project were all immigrants and refugees with varying levels of language and computer literacy, and many have no significant experience with record-keeping in their farming experience in their home country. Hand-written records were the

only option available since MFA did not have the funds to purchase technology that could improve records, such as tablets that could be carried into the fields. Farmers also have many record-keeping requirements they already have to comply with for organic certification, so asking for an additional set of records presents a challenge.

The last major challenge to delivering increased production and sales between the two years of the grant was that 2017 was a particularly challenging growing season in terms of weather for three of the five specialty crops: hot peppers, Asian eggplant, and roselle. A severe hail storm in June 2017 shredded most of the plants in the field, and strong winds with unseasonably cold and wet weather in July stunted the growth of these plants that love hot weather and long seasons. For example, the stress of the extreme weather prevented the eggplant from flowering and setting fruit for most of the season, which meant that each plant produced much less than we could have expected.

As outlined previously, one of our main lessons learned is that we understand the need to improve the aspects of our farmer education curriculum that focuses on record keeping, as well as developing tools for farmer record keeping that will make this process easier and more accessible to farmers in the population we serve, including English language-learners and farmers with limited language and computer literacy skills.

ADDITIONAL INFORMATION

Immigrant farmers raise culturally specific crops with the help of MN Food Association

Thursday, September 22, 2016 by Mecca Bos in Food & Drink Section of City Pages



*See Nay is a Kayan farmer currently growing roselle and other crops on certified organic land on Marine on St. Croix.
Mecca Bos*

See Nay is hovering over a crop of roselle, a five-leaved plant that he grew up farming with his mother and father in Burma.

“My parents were farmers, and I was addicted to my hobby. I loved my crops.”

After fleeing from civil war in the southeast Asian country and arriving in the US, Nay says he never thought he’d get the chance to farm again. But today he looks out over his crops in Marine on St. Croix, and thanks in part to the [Minnesota Food Association](#), he can provide flavors of home to his family, friends, and anyone interested in trying something altogether new.

A sliver of roselle on the tongue is a neon jolt of lemon, and you can imagine using it in any recipe where citrus is called for. Delicious. It’s in the hibiscus family, and later, these plants will flower and fruit. If you’ve spent any time in the Caribbean, you might have had it in the ubiquitous *jamaica* or sorrel drinks there.

But Nay says that in Burma, it’s boiled and eaten as a soup. “I think it contains about a hundred percent Vitamin D. I think we eat a soup with greens in it every day.”

The Minnesota Food Association began about a decade ago as a grassroots effort to preserve the St. Paul Farmers' Market. Out of that original effort came the goal of facilitating better infrastructure and markets for farmers -- especially small and immigrant farmers and those falling outside the anglocentric Minnesota and Wisconsin farming tradition.



May Lee has been on this land for many years and she now works as a paid mentor for other farmers growing culturally specific crops as well as more everyday produce for the farmer's market and CSA.
Mecca Bos

On 90 acres of certified organic land, 17 farmers from nine cultures and their families are currently growing food, with the goal of eventually moving to their own land and becoming self-sustaining. In the meantime, the MFA provides washing and packing stations, and a Community Supported Agriculture and farmers market program to assist with creating more marketability for the produce.

May Lee has been on this land for eight years, and now works as a paid farm mentor for the program. She started in 2006 after the death of her mother. Her family was concerned about the safety of conventional food and felt motivated to grow their own.

“Every time I bought vegetables from the store, the spoon smelled like fertilizer all the time,” she says, her soil-caked hands struggling mightily against the wind to steady the sun hat upon her head. “When we plant our crops, we know that it’s good.”

Lee and her family focus on baby bok choy and mustard greens, and she’s growing 1,500 pounds of carrots for a large contract with [The Good Acre](#), another organization that gives small and immigrant farmers greater markets for their produce.

Like Lee, many of the farmers raise more traditional produce to sell at market — things like radishes, salad mix, and bell peppers. But thanks to a grant from the USDA they have the equipment and other resources needed to also grow specialty cultural crops: hot peppers, daikon, and anchote, an Ethiopian tuber with high calcium content.

The end goal, says Lebo Moore, manager of MFA, is a simple one: "to grow food that they want to eat, and food that will sell well.”

Farmers are also given instruction on how to set up a farmers market stall, how to draft a business plan and navigate tax forms, pesticide and organic pest management, and safe food handling. “We try to help cater to individuals and individual skill sets,” says Moore.

In addition to Kingfield Farmers Market and Mill City Farmers Market, you can find product produced by Nay, Lee, and other MFA farmers at Sen Yai Sen Lek Thai restaurant in northeast Minneapolis, Truce Juice Bar, and Seward Co-op Creamery.

Or check out their upcoming annual potluck and harvest party, which is open to the public and includes live music, beer, a bonfire, wagon rides, fun for the kids, and of course, a market stand. Ask for the roselle by name.

[Project 7](#)

MN Specialty Crop Block Grant – Federal Fiscal Year 15

Organization: Awardee withdrew application before sub-award was completed

PROJECT TITLE

Specialty Crop Business Comprehensive Marketing Project

Project 8

MN Specialty Crop Block Grant – Federal Fiscal Year 15 FINAL PERFORMANCE REPORT

Contact: Josh Wise

Organization: Institute for Agriculture and Trade Policy

Contact information: jwise@iatp.org

PROJECT TITLE

Farm to Head Start: Opening New Markets for Minnesota Specialty Crop Producers

PROJECT SUMMARY

Lifelong learning requires lifelong nutrition. “Farm to School” programs operating in the K-12 world have increased children’s consumption of fruits and vegetables, potentially reducing their risk of obesity and related disease. However, it is recognized that reaching children even earlier than kindergarten to influence their nutrition and taste preferences while they are forming, between ages 3-5, is critical. In Minnesota, there were 17,019 children in Head Start programs in 2015.

Head Start programs serve low income children, reaching Minnesota’s most vulnerable population. Because lower income communities have disproportionately high rates of obesity and related diseases, working with Head Start is an intentional attempt to target nutritional intervention to vulnerable low-income children.

Previous MDA funding has allowed us to fully understand and develop best practices for accessing and providing technical assistance to the Head Start market and other institutional buyers. As a result, we have gone from working with one Head Start over a year's time, to now developing a cohort model of training and support for Head Start professionals that is rapidly expanding our and our partners' ability to implement a farm to Head Start supply chain, serving up to 5 Head Start grantees per year.

PROJECT APPROACH

This is our second round of SCBP funding, and has resulted in 6 new Head Start grantees enacting programs (All have been identified and are in various stages of contract negotiation with farmers, and program implementation.) leading to an additional ~70,000 servings of specialty crops being consumed. At the end of 2017, we have worked with 8 Head Start programs with support from MDA Specialty Crop grants, representing over 20% of Minnesota’s 34 Head Start programs.

Our model always intends for our partners’ Farm to Head Start programs to become self-sustaining beyond the term of our grant funding. Our technique focuses on building the supply chain between local specialty crop growers and Head Start programs, making connections with growers, developing

processes for ordering and delivery and building Head Start's internal understanding, ownership and commitment to local purchasing. Once established, these strategies have lasting impact and allow our Head Start partners to continue purchasing locally grown specialty crops indefinitely. We have developed "train the trainer" techniques for Head Start staff who are already participating in the program, to establish a peer network of trainers who can onboard new staff and maintain the program without our continuing support. We have also promoted the program within the MN Head Start Association to increase the normalization of local purchasing statewide.

2016 represented the first time we engaged with multiple head start program partners to implement our Farm to Head Start model at the same time, as we worked with three programs. We have learned a great deal from adapting our model to each of these contexts and are excited at the opportunity to scale up our model to reach more programs at once. Our biggest challenge has been that each head start program model is unique, and each of our program partners has progressed at different rates in their implementation.

The first order of business for this year's work was confirming the three Head Start programs we would partner with, which took longer than anticipated. We were happy to have more programs interested in partnering with us than we were able to work with during our first expansion year, meaning we could choose which programs would fit best as partners this year and which would be good partners for 2017. Some programs were better able to launch on the fairly short timeline we had for participation in our first expansion year, while others will need more preparation, information-gathering and support prior to a formal launch. This was the main criteria we used to choose which programs to partner with in this first year, as well as intentionally including diversity of location type and communities served in our 2016 cohort. Our selected partners for 2016 were Minneapolis' Parents in Community Action (PICA) Head Start Program, St. Cloud's Reach Up Head Start Program and the Rochester/Albert Lea Head Start Program. After we selected these programs, each of the partners had to go through their own internal processes to gain approval from their respective Head Start Program Policy Councils. We found that each of our three program partners' programs brought their own strengths and learning opportunities for Farm to Head Start, with the work unfolding in unique ways in each context:

St. Cloud's Reach Up Head Start Program has developed a very ambitious and successful Farm to Head Start initiative over the year, incorporating all elements of our original model. Reach Up's Head Start Program serves Benton, Sherburne and Stearns Counties in Central Minnesota with main offices located in St. Cloud. There are 358 children aged 3-5 enrolled in their program, plus 90 "Early Head Start" children aged birth to three. They operate year-round with some half day and some all day care, and have both center- and home-based programming. We focused on food service for the center-based children in our program, but adapting Farm to Head Start resources for use with the home-based children is a future goal for Reach Up's staff.

We developed a deep partnership with Reach Up's Nutrition Coordinator Haley Anderson, who was relatively new to the position and eager to implement new techniques to help develop positive eating habits in the children she served. She recognized the potential of Farm to Head Start to meet that goal and she and Reach Up's Executive Director Linda Maron were both enthusiastic about the

idea of supporting farmers local to St. Cloud and teaching the children where their food was coming from. We found that having the Executive Director's support was key to the success of the program, as well as Reach Up's internal structure and culture which gave the Nutrition Coordinator a great amount of freedom and autonomy to make decisions on how to run the program herself. The Nutrition Coordinator acted as an internal champion, and had the authority to make purchasing decisions, schedule staff trainings, plan parent events and outreach, schedule field trips and more in partnership with other staff.

We were able to deliver in-person Farm to Head Start training to Reach Up's teachers and education coordinators and launch the official program at the start of the fall session. The Nutrition Coordinator identified the pre-launch training as essential to the success of the program, as she perceived staff as generally resistant to changes in their regular way of doing things and wanted our support in both educating staff on the program and gaining their authentic buy in to help make the program successful. It was especially important to explain the reasoning behind the decision to launch the program to avoid the impression of Farm to Head Start as "one more thing on their plate" that they had to comply with without knowing why.

Reach Up partnered with four small-scale Central Minnesota growers to purchase their Farm to Head Start specialty crop produce directly, outside of their general distribution contract: Stoney Brook Farms, Foley MN (winter squash); Svihel Farms, Foley MN (potatoes, green beans, tomatoes); Norm's Farm Market, Becker MN (carrots); and Carlson's Apple Orchard, Annandale MN (Honeycrisp apples). These items were the ones teachers used our Farm to Head Start curriculum to teach educational activities about as part of the official Farm to Head Start program, however the Nutrition Director wanted to do even more local purchasing beyond these items. We supported the Nutrition Director in working with their distributor Sysco to prioritize local purchasing within their purchasing contract. There was less transparency and control over the exact local farms this produce was coming from, but these purchases were still supporting local specialty crop growers. The Nutrition Director kept detailed records of their local purchases, tracking them in a dual-tiered system, defining the direct purchases as "Farm to Head Start Produce" and the items purchased through the distributor as "local produce."

Farm to Head Start Produce:

- Total cost= **\$449**
- Total number of servings (1/4c)= 1500+900+1050+900+900+1600= **6850**
- Cost per serving $\$449/6850 = .0655$ **cents per serving**

Local Produce:

- Total cost= **\$1462.64**
- Total number of servings (1/4c)= **7682**
- Cost per serving $\$1462.64/7682 = .19$ **cents per serving**

TOTAL COST OF ALL LOCAL ITEMS: \$1911.64

TOTAL NUMBER OF SERVINGS OF LOCAL PRODUCE: 14,532

One thing she was surprised about was the low cost of purchasing directly from local farmers, which went against her expectation that it would be more expensive. She said she often would find that purchasing directly from the farmer gave her a lower price than purchasing the same item—even grown at the same farm—from the distributor due to the mark ups of delivery, processing, storage etc. She also expressed a huge value of developing personal relationships with the farmers, such that even though it might be more convenient to purchase their items through a distributor to take advantage of their delivery, she would rather order and pick up those items herself in order to build that relationship. We did discuss the difficulty of ensuring sustainability when some of those purchases relied on her directly picking up the product herself, and she felt that perhaps after the relationship had been fostered working through a distributor could work, but an initial period of direct contact was what really lies at the heart of the community building that is essential to her picture of a Farm to Head Start program.

She also observed a positive effect on her kitchen staff through the program, saying, “The kitchen staff got more comfortable with working with whole foods throughout the program—they started to request ordering extra product to use in other ways outside of the main recipe. They started seeing more ways to use the product. Those creative juices were already flowing.” The staff confirmed this, saying, “It was kind of daunting at first. Fear of the unknown and how it’s going to affect your day. We definitely feel more equipped to keep going with the program now. It was the fear of the unknown that made it challenging.”

Reach Up prioritized family outreach in their Farm to Head Start program, including information on the highlighted fruits and vegetables in their biweekly family newsletters, creating farmer profiles to showcase the local growers and inviting families to a farm tour field trip event for Reach Up families and staff at Stoney Brook Farms in Foley, MN. The field trip was a huge success and was one of their most well attended family events of the year, with 22 family members attending. The event not only allowed the children to experience a farm for the first time, but was also the first opportunity many staff and families had to visit a farm too!

We held a post-program debrief meetings with Reach Up staff in December and are still in the process of organizing information from those meetings. Additionally, we are collecting data on children’s responses to the food items from teachers, and will be conducting a teacher and staff survey in January 2017. All of this information will be used prepare for the continuation of the program in 2017, which Reach Up has enthusiastically committed to carrying out. After this successful first year, their goal is to continue integrating Farm to Head Start into their regular food service and education as a sustained element of their operations.

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Rochester/Albert Lea’s Head Start Program is our second partner, and they have developed a robust local purchasing program. In Rochester, they have a large center at “The Place” serving around 200 breakfasts, 375 lunches and 200 snacks a day to Head Start kids, including “early explorers” who are 18-36 months. They also provide meal service preparing 100-125 dinners for Boys and Girls Club at The Place location. This partnership with the Boys and Girls Club presents a

new situation for our Farm to Head Start model, since the meals prepared for Head Start will also be served to school age children in this after school program. The community served by the Boys and Girls Club is similar to the Head Start community since they focus on after school care for low income children. This presents an opportunity to reach children when they are very young in Head Start and potentially provide continuity of exposure to locally grown produce as the same children transition to the Boys and Girls Club as they get older. Interestingly, the Boys and Girls Club organization is very enthusiastic about local purchasing, and their interest helped to create the demand that influenced the Rochester Head Start Program to want to participate in the Farm to Head Start program. Many Head Start programs partner with local organizations in some way, making this experience a good learning opportunity for us to see how our model works in these situations. Looking forward to 2017, we plan to invite the Boys and Girls Club staff to participate in our Farm to Head Start training to broaden the reach of the program to this wider community. The Rochester Head Start location also serves meals for Migrant Head Start when they are in session, adding even more meals to their service mid-June through November.

Rochester Head Start Program's Albert Lea location orders ingredients and prepares meals separately because it is about an hour away from Rochester, though they do follow the same menu and recipes planned by the Nutrition Coordinator based in Rochester, who is our main contact within the program. Albert Lea's Head Cook is also a key partner in our program, and is very enthusiastic about local purchasing and serving meals made from whole ingredients. In Albert Lea they serve 72 Head Start kids 50 breakfasts, 100 lunches and 50 snacks per day, while also working with 24 Early Head Start families.

Rochester Head Start **spent \$7,370.61** on a great variety of locally grown produce September through November, including Onion, Tomato, Garlic, Frozen Raspberries, Cucumbers, Red Potato, White Potato, Carrot, Summer Squash, Watermelon, Bluebell Grapes, Green Pepper, Apples, Cabbage, Butternut Squash and Oregano. At this time, they don't yet have the numbers compiled for December of 2016. The majority of their local spending was for produce served at Rochester's "The Place" location, though the Albert Lea location did spend \$968.70 on local items. Rochester benefits from a relationship with The Southeast Minnesota Food Network, which operates as a food hub in the area, aggregating produce from over 90 farms. The SE MN Food Network sends an updated list of product availability to the Rochester Nutrition Coordinator each week, and she chooses what items to order from that list depending on what she can fit into her menu.

Rochester Head Start has a strong commitment to continuing their local purchases. Their biggest barrier to working with local producers is the time it takes to process and cook from whole ingredients. In Albert Lea, they also lack freezer space to store food once it is processed and prepared, limiting their ability to buy in bulk and cook and freeze local produce ahead of time—a technique that has been very successful for them at the Rochester location. We are providing resources for them to apply for equipment grant to secure more freezer space, and also to purchase equipment that can clean and chop whole produce efficiently.

In our December planning meeting for 2017, their Nutrition Coordinator set a goal of focusing energy on the Albert Lea location to increase their connections with local growers and ability to

serve locally grown produce. Many Head Start programs—especially those in rural areas—have multiple locations that need to arrange ordering separately, so working with them to plan how to do Farm to Head Start in both locations is essential experience for us to be able to partner with rural Head Start programs in the future. An additional goal of the Rochester Head Start Program is refining the system they use to track their local purchases and the ways that they publicize their Farm to Head Start work to make sure their community knows about the work they are doing. Finally, Rochester has also not yet begun implementing the soon-to-be-required changes to the Child and Adult Care Food Program nutrition requirements. We are working with them on recipe and menu development for the coming year to help them use Farm to Head Start strategies to serve local produce to meet the requirement for more and a greater variety of fruits and vegetables. We see this as a great opportunity to embed Farm to Head Start into their regular meal planning process in a way that makes the program sustainable and institutionalized.

A challenge of our partnership with Rochester Head Start this year was that although the local purchasing side of the program was very strong, we were not able to coordinate getting on their teacher training schedule before the start of the season. Although we shared our Farm to Head Start curriculum with them, we were not able to integrate it into their regular classroom activities as we had intended. We have scheduled teacher trainings in the beginning of 2017 to ensure that the education component of their Farm to Head Start program is set ahead of this year's growing season. Studies show that including this component greatly increases children's receptivity to new foods, and we strongly believe it is an essential part of a successful Farm to Head Start program. The goal of including an education component in Farm to Head Start programs is multifold, and ranges from simple increased familiarity with (and therefore willingness to eat) fruits and vegetables, to ability for children to identify different vegetables by name and understand that plants start as seeds in the ground to complicated, intangible shifts in children's understanding of their own place in the food system and why supporting local growers is valuable. An ultimate goal of these programs is a long term culture shift to support local producers in the long term.

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Minneapolis' Parents in Community Action (PICA) Head Start Program was our third 2016 partner. Our work with them has been slower to progress than expected, but things are looking good for their Farm to Head Start program going forward. PICA Head Start is the largest Head Start program in the state, with ten large child care centers throughout Hennepin County. PICA serves nearly 2,500 children and families and offers a variety of programs and services for children and families in addition to Head Start and Early Head Start. We are very excited to partner with them as their large size represents a big potential market for our local specialty crop growers. Additionally, PICA has a large reputation in the Minnesota Head Start community, and their participation in Farm to Head Start will go a long way to normalizing the program and influencing other programs to participate. Especially because we already worked with St. Paul's Head Start program in 2014/2015, we were eager to get both of the Twin Cities active in Farm to Head Start!

PICA's size and structure have presented some unique challenges in local procurement for us. Unlike St. Cloud and Rochester (and St. Paul) Head Start Programs, PICA does not have a dedicated

Nutrition Coordinator position. Instead, they combine this role with broader health concerns in the position of Director of Health and Nutrition. The Director of Health and Nutrition is our primary Farm to Head Start point of contact, and she is very enthusiastic about the program. However, because her responsibilities extend well beyond PICA's food program, she has limited capacity to devote to pushing the program forward in the way our other partners were able to. We also found that there was some lack of transparency about PICA's decision making process that led to misunderstandings on our part regarding commitment to our Farm to Head Start program and what their timeline would be: we initially believed that the Director of Health and Nutrition had the authority to commit to the program and make purchasing decisions, and it was only after we had been working with her for several months that we were informed PICA would not be able to change their purchasing practices without going through a much longer approval process. We learned that PICA operates in a much more "top-down" way than our other partners, and we needed to meet with the Head Start and Early Head Start Director to secure his approval and start a longer approval process with PICA's policy council before the purchasing side of the program could launch-- however, the Director of Head Start and Early Head Start very limited availability to meet. This decision-making bottleneck combined with the fact that they plan their menus and purchasing months in advance prevented us from changing their purchasing practices for the 2016 season. However, we have now been able to meet with the Head Start and Early Head Start Director (who is very enthusiastic!) and secured approval from the policy council to move forward in 2017. PICA plans to use a two-tiered approach similar to St. Cloud's, where they would like to purchase some items outside of their large distributor contract directly from the Hmong American Farmers Association, while also purchasing additional locally grown items through their distributor as well. In this way, they hope to not put an arbitrary limit on the amount of local produce they buy, but keep the products they are purchasing off contract to a manageable size. They plan to use those directly purchased items as the "highlighted produce items" that are featured biweekly in our program model, but they would also supplement the rest of their menu with additional local items. From our experience this year, it looks like this model is a promising adaptation of our original model that expands the purchasing power of our partners beyond what we originally projected with only one locally grown item highlighted at a time.

At the same time the purchasing side of our program was slowing progressing, we were able to get a lot done on the education side of things. We held Farm to Head Start curriculum trainings with both teachers and kitchen staff, and were greeted with great enthusiasm for our program. Teachers have been able to integrate Farm to Head Start activities into their lesson plans despite not having the locally grown items in the children's meals, and have gotten a positive response from children. Kitchen staff that we trained are eager to start the program, and in fact specifically asked that we "don't let this program slip by." We learned that the Director of Health and Nutrition has tried to move forward on local purchasing previously, but had met with the same bureaucratic obstacles that we faced this year, so some kitchen staff were worried that the program would not end up moving forward. We are glad that with our support, we have been able to secure a commitment from leadership to get the local procurement portion of the program going in 2017.

Overall, though we were not able to move as quickly as we had anticipated in our partnership with PICA, we are excited that we were able to put in the necessary work to get the program going and view it as a necessary investment in the future success of MN Farm to Head Start. PICA's Director of Health and Nutrition compared working with PICA to changing the direction of a large ship—changes take a long time to implement, but once they are set in motion they become institutionalized and have a great potential for change.

2017 was a dynamic year for our Farm to Head Start work, with our work plan progressing towards positive outcomes and our outreach well received by a broad audience of stakeholders. This was the second year we engaged with multiple Head Start program partners to implement our Farm to Head Start model at the same time, with a final cohort of four programs. This was a big learning year for us, as it was the first time we partnered with Head Start programs in truly rural communities and smaller towns (our previous partners were located in St. Paul, Minneapolis, Rochester and St. Cloud). We have learned a great deal that will be valuable to use in future work and share with other programs from adapting our model to these rural contexts, which represent a majority of Head Start programs in the state. The rural context also brought unique and difficult challenges to the logistics of our model, particularly in building supply chains to connect with local farmers, and we found that our workplan timetable moved forward much more slowly with most of our partners this year than our previous experience had led us to anticipate. Because of the slower-than-anticipated progress, some partners did not actively implement Farm to Head Start for as long as we intended, and therefore have not purchased as much local product as we expected at this point. However, we are pleased with the progress we were able to make in building Farm to Head Start programs that are sustainable for our partners to continue purchasing locally grown specialty crops next year and beyond. We are confident that our efforts to build sustainable partnerships that foster thriving local food systems this year will pay off in their continued engagement.

Our selected partners for 2017 were Tri-Valley Opportunity Council Migrant and Seasonal Head Start Program (which has locations spread geographically around Minnesota), Little Falls Tri-County Community Action Head Start Program, Willmar United Community Action Partnership Head Start Program and Mora Lakes and Pines Community Action Council Head Start Program. Originally, we also selected Scott County and Dakota County Community Action Partnership Head Start Program as our fifth partner, however they were unable to follow through with their initial commitment to partner with us at the actual implementation stage. We found that each of our program partners' programs brought their own strengths and learning opportunities for Farm to Head Start, with the work unfolding in unique ways in each context:

Tri-valley Opportunity Council Migrant and Seasonal Head Start Program

[Tri-valley](#) has developed a very ambitious and successful Farm to Head Start initiative over the year, incorporating all elements of our original model. Tri-valley is a unique Head Start program, operating specifically to serve the children and families of migrant workers who travel to Minnesota during the growing season to work on our farms. We were excited to partner with this program, due to the clear connection these children already have with farming, and saw it as a wonderful

opportunity to raise up what their families do to bring food to our tables. The East Grand Forks and Crookston Tri-valley locations operate year round, while the rest of the 15 centers, which are spread geographically around the state, only operate in the summer. Across all its locations, Tri-valley Head Start serves approximately 1200 children. At least 50% of the children they serve must be from migrant families, which are mostly comprised of Hispanic families traveling here from Texas. Locations also serve a large Somalian community. Locations also provide summer meals to children under 18 in the summer on a walk in basis, and Tri-valley saw Farm to Head Start as an opportunity to raise the visibility of the Summer Food Service Program in their communities.

Each location has its own food service manager, and these managers order their food from different distribution companies or purchase food from grocery stores on their own discretion. Locations also vary in their kitchen facilities, ability to do food preparation on-site (as opposed to ordering pre-made food), and the level of engagement kitchen staff have with their jobs, which are seasonal for most. However, the menus for the entire program are planned centrally by Nutrition Manager Jami Nunn, and she has a longer term plan to get all centers on the same distribution contract. We developed a deep partnership with Jami, who was relatively new to the position and eager to implement new techniques to help develop positive eating habits in the children she served. She recognized the potential of Farm to Head Start to meet that goal and she was enthusiastic about the idea of supporting farmers and teaching the children where their food was coming from. Key to her ability to implement our model is the trust Tri-valley Head Start put in her to make decisions and run the food program as she thought was best. Given the complex situation of geographic spread and diverse food service configurations even within the program, Jami decided to focus on select locations to test out the model in this first year, with a longer term goal of adding more locations in the future. She chose to work with the location in St. Cloud, due to its close proximity to our 2016 partner Reach Up, whose Nutrition Coordinator had done a lot of helpful work building connections with local farmers that Jami could now use; with the Rochester location, whose food is supplied by another of our 2016 partners, the Rochester Head Start Program, and the Crookston and East Grand Forks locations, which were closest to where she was based giving her more oversight and ability to engage.

The St. Cloud location was able to source locally grown specialty crops very successfully, partly due to team work between Jami and Haley to build a supply chain with their local farmers. Together, they connected with the [Local Harvest Market](#), a regional food hub in Alexandria, MN formed by a group of over 30 west central Minnesota producers and consumers primarily to build a market bridge between local farmers and local consumers. They were even able to piggyback delivery of some items when both programs were ordering the same food item. Their cooperation was the best example of our cohort model encouraging peer learning and support among our current and former partners to troubleshoot together and learn from each other's experience. Jami and Haley developed a cooperative relationship through us making the initial connection, and then connected independently to compare notes and plan together. Haley had been purchasing directly from farmers in 2016, but transitioned to working with the food hub this year. We saw a great benefit to both programs in partnering with a food hub, which was able to aggregate products from multiple farms, provide one order form and bill, and deliver the products. Unlike a typical large scale

distributor, food hubs are committed to providing total origin transparency to their customers, allowing them to select which farms to purchase from and build relationships with them if they choose. Food hubs typically are committed to their communities and to serving the farmers they source from as well.

The Rochester location also benefitted greatly from our previous partnership with Rochester's Families First Head Start program. Because this location is actually catered by Families First, we were able to coordinate with Families First Nutrition Coordinator Sarah Wenum to follow our food calendar in her menu planning for the year and make sure the Tri-Valley Rochester location was getting the locally grown foods on our calendar. This had the added benefit of reinforcing Families First's commitment to sustain their local purchasing as well.

Ultimately, the supply chain with local farmers in the northerly locations of East Grand Forks and Crookston proved difficult to build to fully implement our model's goal of two servings of local fruits or vegetables a week in this year, however Jami was able to research and build a connection with a new food distribution company that is able to source locally (likely Bix, which delivers a variety of local products to other locations in the area), and she plans for Tri-valley to contract with them next year, and to explicitly use ability to supply local fruits and vegetables in her selection criteria for the program's distribution contract in the future. We see this as a huge win for the long term sustainability of Tri-valley's commitment to local sourcing! Jami did do extensive educational activities around food and farming in these locations, which she was able to travel to and engage with herself.

We learned towards the end of this year that Jami had secured a new position in a different organization. We were initially dismayed that she would be leaving, however we have been pleased that she has been training her replacement on the local procurement strategies we co-developed as part of the normal way Tri-Valley purchases food. We are heartened to see another demonstration that our program has been integrated into the regular operations at Tri-Valley, and see this as another positive sign that the program will be sustainable long term.

We provided training to all Tri-Valley staff on Farm to Head Start and Jami was able to implement the educational opportunities around food and farming at all locations in the program, including those that are not yet purchasing locally grown food.

Little Falls Tri-county Community Action Head Start Program

[Tri-County](#) developed a very successful version of our model, with a great demonstration of how working with a regional food hub can be an effective strategy for procuring locally grown food for our program. Unlike the process we have taken with our other Head Start partners, in this case IATP was familiar with the great work [Sprout Food Hub](#) was doing with K12 schools in Farm to School programs around their location in Little Falls, and we sought out the local Tri-County Head Start program to take advantage of the local food supply chain that we already knew to exist in that region. In other cases, we have partnered with the institution first and then helped them make a connection with local farmers, usually by building entirely new supply chains in often challenging

circumstances. In comparison, we found the experience of working in an area that already had established a regional local food supply chain to be much more straightforward!

Sprout Food Hub came with lots of experience selling to institutional markets. They tout their work managing the “aggregation, distribution, and marketing of source-identified food products from over 40 local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand.” They were excellent partners to Tri-County, bringing their experience selling to six K12 schools and many other institutions to help guide Tri-County through the unfamiliar process: deciding what local products to purchase when, setting up an ordering and delivery system and coordinating billing and payment systems. We were even able to do a large and dynamic Farm to Head Start training session with Tri-County’s staff in Sprout’s amazing space, culminating in using Sprout’s licensed commercial kitchen to try out a recipe using local ingredients supplied by Sprout.

Sprout was also already very involved in the wider community, providing a space for monthly farmers market and craft fairs, providing rental licensed kitchen space for local small businesses to cook or can value added products, facilitating CSA boxes for low income community members and doing all kinds of outreach on local foods issues (including the founder testifying in support of state Farm to School policy!). Connecting Tri-County with this food hub immediately connected them to this wider community in addition to their local farmers. Few of the Tri-County staff were aware of the food hub in their community, but as a result of this partnership several of the teachers reported shopping at the Sprout farmers’ market.

This was a very successful partnership for us, demonstrating the power of food hubs to make the process of setting up Farm to Early Care programs much smoother. We hope to continue to use this strategy in our future work; not only would this bring “low hanging fruit” institutions into local purchasing, but supporting and growing a supply chain that already exists builds on the experience and infrastructure that came before, reinforcing the entire local food chain community. We theorize that a program operating within a larger supportive system will also have an easier time sustaining and succeeding than one operating in isolation.

Willmar United Community Action Partnership Head Start Program

We came to our partnership with [UCAP](#) through other early care partners highlighting them as part of a community actively participating in the MN “[Born to Thrive](#)” initiative—a cross sector statewide effort to improve public health and nutrition in early childhood settings. They were enthusiastic about partnering with us from the start, and we were excited that they saw our Farm to Head Start program fitting into a big picture “systems” approach to improving nutrition for their kids, and we hoped to build on the supply chain we knew must exist since the local Willmar school district does some local purchasing already. In fact, Willmar Public Schools actually caters UCAP Head Start’s main meal program, with UCAP responsible for providing their own snacks. Because we knew that Willmar Public Schools already was involved in Farm to School, we expected the planning to go relatively smoothly.

Our initial plan for building their program was to connect with Willmar Public Schools' Food Service Director Annette Derouin, and potentially work together with her to plan the menus for the upcoming school year to align with our program's goals. However, we hit an unanticipated road block when Annette responded to our email letting us know that they had lost some staff in her district and she was too busy to be able to work with us. The next iteration of our plan was to have a phone call with Annette to at least find out what, if any, local foods would be reaching UCAP kids through the menus she had planned, and to find out who her farmers were and what systems she was using to get their food delivered. We hoped to use this information to connect directly with the farmers or distributors to place orders with them, and potentially to piggyback any of our orders on other deliveries they were making to the area. Unfortunately, Annette let us know that she was stretched too thin to even have a short phone call with us to go over this basic information. At this point, we realized we had to do our own research from scratch. We contacted our partners at Land Stewardship Project and the MN Farmers Union to ask them for any farmers contacts with institutional sales ability in the area. We also put a call out to partners in the Farm to School Leadership Team to let us know of any leads they had. Eventually, after a long process of following up on dead ends and starting to wonder if we would not be able to find a viable way to get local food to UCAP, we were put in touch with Beverly Dougherty—the very enthusiastic founder of a food hub just trying to get off the ground in Willmar (in fact, this food hub project is also supported by a grant from MDA)! Beverly was excited to connect with us, as Real Food Inc. food hub was not yet a large enough operation to meet the demand of large institutions like the school district, but she thought the Head Start program would be a perfect size institution for them to test out institutional sales and develop a system for how this would work. Though it was later in the season than we had initially hoped, Real Food was able to supply UCAP with locally grown apples and carrots for the last two months of the year.

UCAP does not have the facilities or equipment to cook their snacks themselves, so they were limited to purchasing locally grown foods that are possible to eat raw. In the future, Real Food hopes to expand their operations to include a licensed kitchen (similar to Sprout's in Little Falls), and would then potentially be able to process and prepare the foods before delivering them to UCAP. In fact, UCAP's needs are now influencing Real Food as they decide what direction they need to go in to serve the needs of their community. We are excited about the ability for UCAP's local purchasing to expand right along with Real Food's facilities and capacity as both of them grow together. Despite the slow start to this program due to the difficulties in building the supply chain with local farmers, the connection we finally made has been mutually beneficial and shows a lot of promise the continuation and expansion of local purchasing at UCAP. We also hope that UCAP could eventually reconnect with Annette from Willmar Public Schools after they resolve their internal staffing and capacity issue to get clarity on what local products are already included in their meals, and hopefully plan together to expand local purchasing there too.

Mora Lakes and Pines Community Action Council Head Start Program

[Lakes and Pines](#) had a situation very like Willmar's in that they are located in a small rural town and rely on the local school district to cater their meals. Like Willmar, they provide their own snacks, but while Willmar can do some light preparation, Lakes and Pines does not have the capability to do any preparation at all, and must purchase snacks that are already processed and individually packaged for students. Our initial plan for Lakes and Pines was to make a connection with the local school district to see if they would be willing to work with us. We again hit a roadblock in this plan, this time not due to the school district being short staffed but due to our Lakes and Pines partners themselves being so busy they had difficulty following through with steps we would outline with them. We found that Lakes and Pines had significant staff turnover and staffing capacity issues over the course of the year, which impacted our work significantly. Though our initial meetings and planning process were very promising, throughout the summer it became increasingly difficult to communicate with them. Our partners there appeared to be stretched very thin, and would often have to reschedule our check in calls or ask for extensions on deliverables for our workplan. Our main contact person was so busy that she was not able to respond or engage with us once the fall started, and we ended up shifting to a different staff person as our main contact. Unfortunately, since her role lacked the decision making authority of our initial contact person, decisions would have to be relayed from our new contact up the chain of command before they could take effect, which slowed things down even more.

We had initially planned to connect with the local school district's director through Lakes and Pines, but they were unable to follow through with setting up the meeting for us. Eventually, it was too late in the year and we felt we had missed the opportunity to partner with the school district in our menu planning process and needed to independently plan with Lakes and Pines, focusing on their snack service since they had control over that. Similar to Willmar, we tapped into our partner networks to try to connect with farmers or distributors in the area. We made some connections, but found it challenging to find a farmers or distributors who could supply the fully processed and individually packaged snacks Lakes and Pines needed, and it was also difficult for Lakes and Pines to meet the delivery threshold needed to make it worthwhile to deliver just their snack order. The delivery threshold issue gave us the idea that we needed to find a delivery that was already occurring in their area that we would be able to negotiate piggybacking Lakes and Pines' order on to be delivered at the same time. We returned to the idea that we could connect with the local school district and finally had a breakthrough: we independently connected with the school district to find out what distributors they worked with, and found that they have an account with Upper Lakes Foods—a distribution company that our partners in Brainerd and Little Falls were already successfully partnering with to purchase local foods, and that is capable of providing the processed and packaged snacks Lakes and Pines needs. We contacted Upper Lakes Foods and were able to connect the rep from their area with Lakes and Pines to set them up with a new account. In addition to making it possible for Lakes and Pines to purchase local snacks as our part of program, this new relationship also solves a general problem for Lakes and Pines staff, who have up until now been responsible for physically making frequent trips to the store to purchase their snacks on top of their normal work duties. As they finalize their account with Upper Lakes Foods, they can now purchase all their snacks (local and not) through this distributor, who will deliver them to the school district at the same time they are making their regular drop off there, and Lakes and Pines will receive their

regular meals and their snacks at the same time through the school district, thus streamlining their entire food procurement process and integrating local purchases into their regular way of doing things. Unfortunately, this connection only took place in November, and at this point we are not sure if it is too late in the season for Upper Lakes to supply locally grown foods for 2017 snacks. We are hopeful that the hard work we put in and new systems we supported putting in place over the course of the year will prepare Lakes and Pines to purchase locally grown snacks from the time they are available in 2018.

Simultaneously while supporting Lakes and Pines main program through this process, we also worked closely with one of their “partner centers,” Allstar Child Care, and were able to support them in actively launching local purchasing this year. Allstar serves approximately 100 children (both pre-K and school-age), and is equipped with a full kitchen to cook most food from scratch. Although Allstar’s director had been interested in local purchasing for several years, she lacked the technical support to do so and had not yet purchased locally grown products before our partnership. Working with IATP, Linn was able to purchase local apples, squash and potatoes for its meal service this fall from nearby Novak’s Grown Right Vegetables. Allstar will be relocating to a new building in the spring of 2018, with plans to scale up their local purchasing with new kitchen equipment (Linn is already planning to apply for an MDA Farm to Early Care grant next year)!

Scott County and Dakota County Community Action Partnership Head Start

As discussed with our program officer in fall 2017, we did change our initial plan from partnering with five programs to partnering with four. We spent the first half of the year working with [Dakota County’s Head Start program](#) as a fifth partner, but unfortunately they decided to back out of the official launch of Farm to Head Start due to internal issues just before they were set to launch in September. They were renegotiating their contract with their primary food distributor, and as that process was more complicated than they anticipated they felt that it would be too difficult to start implementing a new Farm to Head Start program while negotiating with a new distributor at the same time. Due to the late notice of their decision, we were unable to find a new partner at that point in the year and decided to focus on our four other partners. Though it was unfortunate to lose this large program as a 2017 partner with large potential purchasing power for local farmers, they did express interest in working with us in the future, so our hope is that all of the planning work we did with them will still lead to local purchasing in their future. Ultimately, we also felt that having one less partner had the positive effect of giving us more time to work with our remaining partners, who needed more hands on support than we initially anticipated.

Through our partnerships in 2017, we saw that rural communities face different, and in some cases larger, challenges than previous partners we had worked with in larger cities. Our rural partners had fewer options to choose from when building their local foods supply chains, and there was less infrastructure in place to process and deliver product in the form they need it. The Head Start

programs themselves were often ill equipped with licensed kitchens and staff who were able to prepare whole foods from farms. Additionally, we saw that some rural Head Starts face continual staffing capacity challenges, making it extremely difficult for them to prioritize the planning and work it takes to build a local procurement plan even when they were motivated to do so.

We have promoted our Farm to Early Care model and curricula broadly with enthusiastic feedback. We have conducted general outreach through key networks, including: the MN Head Start Association, MN Farm to School Leadership Team, the MN Child Nutrition and Wellness Advisory Group, the National Farm to School Network, and the MN Farm to Childcare Leadership Team, a group founded with support from a previous specialty crop grant. We consulted with Gayle Kelly, the Director of the Minnesota Head Start Association, on the best strategy to do outreach to statewide Head Start programs, and presented with our CAPRW partners at their spring quarterly statewide Head Start director. We distributed outreach materials in person at that meeting rather than mailing them, and used that more personal opportunity to connect with potential future partner programs. We promoted our Farm to Head Start work in a presentation at the National Child and Adult Care Food Program conference April 20-23, and presented in three separate workshops related to our Farm to Head Start work at the Farm to Cafeteria Conference June 3-6. We also promoted our work at the National Head Start Conference May 15-17.

To ensure funds were used solely to enhance the competitiveness of specialty crops, IATP conducts two levels of ongoing evaluation and documentation of this. All project staff is required to document work hours on the project, separate from other activities on their time sheets submitted bi-weekly. The Principal Investigator (P.I.) Erin McKee VanSlooten completes a Specialty Crops Work Description form on a monthly basis in which the P.I. describes the work accomplished and which of the targeted specialty crops is affected by that work.

Additional Support in 2018:

We were grateful for the opportunity for additional support from MDA to do some follow up support for our previous partners in 2018! We had recognized that many of our partners spend the first “pilot” year of doing Farm to Head Start familiarizing themselves with the concepts and goals of the model, getting structures in place for local purchasing and testing out recipes, educational activities and family engagement strategies to see which ones work; we were happy with the great start our partners got during our formal one year partnership, but this additional follow up opportunity let us check in with our previous partners and provide timely support that increases the likelihood of long term success and sustainability of their Farm to Head Start work.

Immediately after we were offered this opportunity, we reached out to each of our previous partners to set up meetings to have a big picture conversation about their how their Farm to Head Start activities are going and assess what support we could provide depending on their specific needs. We were able to connect with the following partners to provide support:

- Haley Anderson from St. Cloud Reach Up Head Start. We were excited to reconnect with Haley, whose Farm to Head Start program is in its second year. She has built a strong initiative, with

local procurement integrated together with educational activities in the classroom. She has already been working on bolstering the confidence of her food service staff, and reported that now they have been requesting to purchase extra local produce on top of what Haley had planned for the core Farm to Head Start recipes. Haley did report a need to continue training her teaching staff on Farm to Head Start: “One of the things we’ve learned and have switched to a priority is training staff and getting them to be more adventurous in their eating as well. What we see is that we can focus a lot of the things on the kids, but we have to have the teachers on board. So we have to break down their walls to try new foods and things they are not familiar with, so they can encourage the kids to do the same in a classroom setting.” We were able to support her with additional staff training resources and PowerPoints that she can use in future staff trainings, and we shared a successful strategy we have seen with other partners who stressed peer to peer learning that let teachers experienced and enthusiastic with the program mentor new teachers. Additionally, we supported Haley in her efforts to publicize the good work she is doing in Farm to Head Start. We supported her in planning potential presentation and applying to two different conferences to present on her work. She was unfortunately not selected for one, but is waiting to hear from the MN Academy of Nutrition and Dietetics Conference. Haley has also joined the MN Department of Education’s Child Nutrition and Wellness Advisory Group, representing statewide Head Start programs for the group and emphasizing Farm to Head Start to that influential group. St. Cloud has certainly become a statewide leader in Farm to Head Start, and we encouraged Haley in the wonderful work she is doing as a spokesperson and promoter who inspires her peers to start their own Farm to Head Start initiatives.

- Sarah Wenum and Carrie Kirsch from Families First Rochester/Albert Lea Head Start. We were pleased to hear that Rochester’s Head Start program is continuing their impressive local purchasing model in both the Rochester and Albert Lea locations, and they also have implemented more family engagement opportunities into their Farm to Head Start model, including field trips to local apple orchards and pumpkin patches. This was a goal of theirs at the end of our term with them, so it’s wonderful to see it come to fruition. We refreshed them on family engagement resources to continue this good work. Additionally, we began work with them to plan a Great Apple Crunch event at their Albert Lea location where families could have joined their kids at lunch. This event would have taken place during Farm to School Month in October, however even though they were interested and we started the planning process (by providing a sample agenda, invitation language and a planning checklist), internal barriers meant that they weren’t able to implement it on the short timeline we had this year. We hope they can use the materials for a future event!
- Jami Lee and Deb Cooper from Tri Valley Head Start: We were excited to be able to provide significant follow up support for Tri Valley! As with Rochester above, we worked with Jami to plan a Great Apple Crunch event for Farm to School month, and her program was able to host a successful Farm to Head Start celebration with great attendance from their families! Jami’s other priority area was building a more intensive training program for her kitchen staff, which are located in her 17 sites around the state. She secured approval to host one multi-day Farm to Head Start training for staff from all sites (to take place in the spring on 2019). Together with Jami, we planned the agenda and activities for this training event, and drafted initial PowerPoints that she will further refine as

the training gets closer. We also connected her to Sprout Food Hub (our partners from our work with Tri County) to host the training at their location, which is central to Jami's centers. Additionally, we supported Jami in her application and planning for presentation at the 2019 National Migrant and Seasonal Head Start Conference, which she has been accepted for! On top of that, we worked with our communications staff to outline the content and script for a video "case study" highlighting Tri Valley's Farm to Head Start initiative, to be used to promote Farm to Head Start state- and nation-wide. (The actual filming for the video was scheduled for after the term of this funding, and it will be released in December of 2018.) We are excited that this opportunity led to a promotional resource that will be very useful for Jami and for us going forward!

- Renée Dormanen from Tri County Head Start. Reconnecting with Tri County at this time turned out to be very timely, as our main contact and Farm to Head Start champion Renee has actually ended up leaving Tri County this fall. We were able to have a meeting with Renee as well as their grant director Jennifer and director Penny to identify their goals, which focused on family engagement support. Renee let us know that the teaching staff, who had given some push back to the initiative in our first year of working with them, had increased their buy in after Renee had continued to include them in the planning process and engage the curriculum lead in Farm to Head Start. We put together a package of family engagement resources for them, and planned together for a bigger celebratory event to kick off the season in 2019. Though we did not know that Renee would be leaving at the time we went through this planning process, we now see it as critical for reengaging buy in from Jennifer and Penny, who can hopefully carry the initiative forward now that the program has lost their initial champion.
- Michelle Randt from Willmar United Community Action Partnership Head Start. We were glad to hear that UCAP's Farm to Head Start program has continued to succeed, especially as they have solidified a procurement routine with their local food hub and a third party food processor. They have also purchased educational support items (such as toy farms) for their classrooms to increase their teachers' ability to do hands on activities with their kids. Due to the tight turn around and busy schedules at this time of year, we didn't do significant follow up work with UCAP beyond our general check in meeting, but we were glad to have the opportunity to reconnect to confirm that things are going well, and to troubleshoot some general issues in that conversation.
- Keri Ziegler from Mora Lakes and Pines Head Start. Because the local purchasing had faced so many obstacles during our year of partnership, when we wrapped up our contract Lakes and Pines had not yet been able to actually serve local specialty crops in their meals. We were thrilled to reconnect with them and confirm that they have indeed been able to use the supply chain that we set up with Upper Lakes Foods to purchase local foods. They now purchase all their snacks (local as well as not) through Upper Lakes Foods, which delivers to the local school district that prepares Lakes and Pines meals. Lakes and Pines now receives their regular meals and their snacks at the same time through the school district, thus streamlining their entire food procurement process and integrating local purchases into their regular way of operating. Similar to some of our other partners, after spending their initial year focused on setting up local procurement channels, they are now interested in expanding the educational activities around food and farming in the classroom and the family engagement components of the program. We were able to share our curriculum with

them and talk through family engagement ideas that they can incorporate into their Family Fun Nights over the rest of the year.

In addition to the support outlined above, we have decided to use the content that we gleaned from our check in conversations to produce written “case studies” for each of the Head Start partners we have worked with, outlining how they have implemented Farm to Head Start to meet the needs of their own communities. We want to demonstrate the flexibility that Farm to Head Start has by capturing the diversity of ways that different programs have implemented these initiatives. We were able to gather the information and write the initial drafts during the time of this additional support, however the vetting and editing process has extended beyond the term of this funding. We expect to publish these case studies early in 2019. We are excited that this small additional support opportunity planted the seeds for creating resources that we know will be useful across the state for Head Start programs wondering what purchasing local specialty crops would look like in their unique situation.

The **Hmong American Farmers Association** has been a crucial partner in our Farm to Head Start work. They helped develop culturally responsive elements of our Farm to Head Start curriculum, and have brought to this work a firsthand understanding of the lives of local Hmong Farmers, their farming and cultural traditions. They participated in several meetings over the year giving advice on how to navigate supply chain logistics to figure out how local purchasing will fit into regular purchasing models of programs. Particularly, they met several times with Dakota County Head Start to plan their Farm to Head Start approach before they decided not to move forward in 2017.

The **Southeast Minnesota Food Network** has been key in our partnership with the Rochester/Albert Lea Head Start program. They have recognized a major barrier to institutions purchasing from local farms—namely that minimum purchasing requirements often shut out smaller farmers from selling their products to institutions—and they send the product availability of their 90 local farm members on a weekly basis for Rochester/Albert Lea to place orders for locally grown fruits and vegetables.

The **MN Farmers Union and The Sustainable Farming Association** have also been great resources for us in their ability to point us towards small farmers in locations throughout the state due to their structure based around local chapters.

Reach Up Head Start in St. Cloud

Reach Up Head Start in St. Cloud launched a successful Farm to Head Start program in 2016, lead by their passionate and dedicated Nutrition Services Coordinator Haley Anderson. A main priority for Reach Up was developing personal connections with local farmers. Haley identified four growers within a 30-mile radius of Reach Up and, throughout the growing season, personally picked up each order of highlighted fruits and vegetables for their Farm to Head Start program. Haley benefitted from a very supportive administrative team that recognized the importance of food and nutrition for their children, as well as a foodservice staff that was willing and able to take on the new

challenge of preparing more fresh produce from scratch. Although she met her goal of developing stronger connections with local farmers in 2016, the following year she coordinated with a local food hub which allowed her to continue purchasing from many of those same farmers with the added benefit of convenient delivery to her centralized kitchen.

Families First of Minnesota in Rochester and Albert Lea

Prior to partnering with IATP, Families First was already purchasing some local foods from the Southeast Minnesota Food Network. In addition to increasing the amount of local foods purchased, particularly at their Albert Lea location, they also aimed to train their teachers on Farm to Head Start-related classroom activities, increase promotion of their local purchasing and develop opportunities for family engagement. Our partnership with Families First spanned two years, which gave us the opportunity to work with their locations in both Rochester and Albert Lea. Working in both a larger community with more infrastructure as well as a smaller rural community highlighted the challenges and opportunities for local food systems in different contexts.

Parents in Community Action in Minneapolis

Ultimately, the decision-making bottleneck of PICA's structure combined with the fact that they plan their menus and purchasing months in advance prevented us from changing their purchasing practices for the 2016 season of our official partnership, however we did make big inroads into the education and family engagement side of our model with PICA. Overall, though we were not able to move as quickly as we had anticipated in our partnership with PICA, we are excited that we were able to put in the necessary work to get the program going and view it as a necessary investment in the future success of MN Farm to Head Start.

Tri-Valley Opportunity Council Migrant and Seasonal Head Start (with locations spread around Minnesota)

Tri-Valley is a unique Head Start program, operating specifically to serve the children and families of migrant farm workers who travel to Minnesota during the growing season. We were excited to partner with them because of the clear connection these children already have with agriculture. Given Tri-Valley's complexity in terms of geographic range and diverse food service configurations, Nutrition Manager Jami Nunn decided to focus on select center locations to pilot the model in their first implementation year, with a long-term goal of adding more locations in the future. Jami worked with a food distribution company that could source a variety of local fruits and vegetables at each site, and she plans to utilize the ability to supply local produce in her selection criteria for the program's food service contract in the future. We count this as a huge win for the long-term sustainability of local purchasing at Tri-Valley!

Tri-County Community Action Head Start in Little Falls and Brainerd

Tri-County Head Start developed a very successful version of our model, with a great demonstration of how working with a regional food hub can be an effective strategy for sourcing locally-grown food. Sprout Food Hub in Little Falls was an excellent partner for Tri-County, bringing its experience

selling to six K-12 schools to guide Tri-County through an unfamiliar process: Deciding which local products to purchase, setting up an ordering and delivery system, and coordinating billing and payment. Tri-County's partnership with Sprout yielded other benefits, too. Few of the Tri-County staff were aware of the food hub in their community prior to working together on Farm to Head Start, but as a result of this partnership, several of the teachers reported shopping at Sprout's farmers' market.

United Community Action Partnership Head Start in Willmar

Our partnership with UCAP Head Start in Willmar helped us think creatively about a local food supply chain. Without the facilities or equipment to cook snacks themselves, UCAP was limited to purchasing local foods that can be eaten raw. Through IATP's network of partners, we learned about a new food hub that had been established in Willmar and was looking to get started with institutional sales. Real Food food hub was able to start small and supply UCAP with local apples and carrots, and both organizations are looking forward to partnering together in the future. In fact, UCAP's needs are now influencing Real Food's development as they decide how best to serve the needs of their community. We are excited about the ability for UCAP's local purchasing to expand alongside Real Food's facilities and capacity, as both of them grow together.

Lakes and Pines Community Action Council Head Start in Mora

Like UCAP, the Lakes and Pines Head Start in Mora lacked kitchen facilities and relied on the local school district to cater its meals. They needed to supply snacks that are already processed and individually packaged for its students. We connected with the school district and found that they were working with Upper Lakes Foods (a distribution company that our partners at Tri-County were already successfully teaming with to purchase local produce). This was a big win since Upper Lakes Foods could provide the processed and packaged snacks Lakes and Pines needed, and deliver it to the school where they were already picking up their daily meals, streamlining their entire food procurement process and integrating local purchases into their regular operation! While supporting Lakes and Pines' main program through this process, we also worked closely with one of their "partner centers," Allstar Child Care, and supported them in launching local purchasing this year.

Each of our four Head Start partners provided a unique opportunity for us to learn more about the food environment and supply chains in rural Minnesota settings, and how to adapt our Farm to Head Start model to best suit each organization's needs. We are excited to use our lessons learned in 2016 and 2017 as we enter new partnerships in the future and are confident that our efforts to build sustainable partnerships that foster thriving local food systems will pay off in their continued engagement.

GOALS AND OUTCOMES ACHIEVED

Goal 1: Increase in knowledge of how to purchase locally grown specialty crops.

Results to date: In 2016, we held 5 training workshops for our Head Start program partners reaching around 25 Head Start teachers and staff and family engagement events and field trips reaching around 70 family members of participating children. We conducted 4 workshops at National conferences, reaching around 100 attendees. 100% of respondents who completed our participant surveys indicated an increase in knowledge of educational strategies for incorporating F2S into their classroom after workshop presentations. Respondents indicated moving from a “low” level of knowledge about Farm to School to “moderate” or “high” level after workshop presentations. We have also engaged a larger audience through an additional 10 informal presentations at various meetings and events, where our program and curriculum were announced and provided to those in attendance.

In 2017, we held 7 training workshops for our Head Start program partners reaching around 100 Head Start teachers and staff and family engagement events and field trips reaching around 70 family members of participating children. We conducted 4 workshops at National conferences, reaching around 100 attendees and 3 formal presentations at Minnesota statewide conferences, reaching around 70 attendees. 100% of respondents who completed our participant surveys indicated an increase in knowledge of educational strategies for incorporating F2S into their classroom after workshop presentations. Respondents indicated moving from a “low” level of knowledge about Farm to School to “moderate” or “high” level after workshop presentations. We have engaged a larger audience through an additional 10 informal presentations at various meetings and events, where our program and curriculum were announced and provided to those in attendance.

- 1/19 -MN Agriculture and Rural Leadership presentation
- National Farm to Early Care and Education group presentation
- 2/03 -MN Association for the Education of Young Children Conference
- MN Farm to Early Care Coalition presentation
- 5/02 -National Farm to School Network Annual Meeting presentation
- 5/30 -National San Diego Child Obesity Conference presentation
- July 2017 -Series of four Farm to Early Care webinars
- October 2017 -Farm to School Month publicity—social media promotion reached at least 1,425 people
- October -PNS Radio story reached 62,816 people
- October -podcast on Farm to Early Care
- 10/25 -Duluth Food Access Summit presentation (workshop and Spark Talk)
- 10/27 -USDA Good Greens group presentation

- 12/05 -National Community Food Systems Conference

Goal 2: Increase sales of locally grown specialty crops to targeted facilities.

Measure: MN Specialty Crops purchased by 3 Head Start programs in 2016 (approximately 15 individual center locations), with 5 additional Head Start programs purchasing MN Specialty Crops in 2017.

Benchmark: No deliberate purchases of locally grown specialty crops identified before our partnership.

Results:

8-10 Specialty Crops were served at 3 Head Start programs in 2016 and 4 Head Start programs in 2017. Each of our Head Start partners significantly increased the amount of specialty crops they purchased and served to children, although our biggest obstacle to reaching this goal has been a slower than expected launch of the local procurement side of the program. We feel confident that the processes and connections with growers established in 2017 will yield even more local purchases in the future.

Our biggest setbacks for this goal have been a slower than expected launch of the local procurement side of the program with PICA Head Start, and the belated backing out of our partnership of Dakota County Head Start as outlined above.

Monitoring: Comparison of purchasing records.

Goal 3: Minnesota children eat a variety of specialty crops

Measure: Number of participating children and servings of MN-grown specialty crops.

Benchmark: Zero servings identified.

Target: 2016 3,000-5,000 children eating approximately 70,000 servings of MN specialty crops. We have exceeded our goal of children eating 8-10 different MN specialty crops, and have identified at least 24 different MN specialty crops served through our program, including Onions, Tomatoes, Garlic, Raspberries, Cucumbers, Red and White Potatoes, Carrots, Summer Squash, Watermelon, Bluebell Grapes, Green Peppers, Apples, Cabbage, Butternut Squash, Winter Squash, Green Beans, Parsnips, Beets, Asparagus, Rhubarb, Strawberries, Black Caps, Broccoli and Cantaloupe.

Monitoring: Review of menu history.

Grant project work plan table is under *Additional Information*.

BENEFICIARIES

<i>Head Start Partner</i>	<i>Farmer/Grower/Food Hub</i>
Reach Up	Local Harvest Food Hub Stoney Brook Farms Svihel Farms Norm's Farm Market Carlson's Apple Orchard
Families First	Southeast Minnesota Food Network (multiple farms) Verlys Huntley Gardens
Parents in Community Action	(Was not able to purchase from local farms during time of our partnership)
Tri-Valley	Local Harvest Food Hub (multiple farms)
Tri-County	Sprout Food Hub (multiple farms)
UCAP	Willmar Real Food Food Hub/Beverly Dougherty (multiple farms)
Lakes and Pines Allstar Child Care	Upper Lakes Foods (multiple farms) Novak's Fruit and Vegetable

Over the course of the project we benefited a total of 5,486 people: 5,295 students who gained access to local fruits and vegetables, and 191 farmers who were able to access the Head Start Market either through a Food Hub or directly.

MDA Grant Report Data spreadsheet is attached to e-mail with final performance report.

LESSONS LEARNED

The biggest thing we have learned in this process is how to scale up the efficiency of our program to serve multiple Head Start programs in one year, moving from partnering with 1 at a time to 3 to, now, 4 programs operating in a cohort model that includes connecting our partners to each other in addition to the 1-to-1 technical assistance we provide. With our ultimate goal of encouraging all Minnesota Head Start programs to purchase locally grown specialty crops, it was essential for us to be able to bring multiple programs onboard at once to make sufficient progress.

In addition to supporting multiple programs at once, we have learned a great deal about how our model can be adapted to work in a diverse array of Head Start contexts. Head Start programs' food service programs can take many forms, from completely in-house kitchen operations to working with external catering companies to partnering with local K12 schools to provide meals for their children. Head Start programs also vary greatly in size, and operate in urban, rural and suburban contexts. IATP has gained invaluable experience working with our 7 Head Start partners so far, and now are well positioned to use that experience to assist additional Head Start programs in learning from their counterparts to succeed in their own context.

The two areas in which we were not able to stick to our projected timeline in 2016 were in completing the curriculum training with Rochester's teaching staff and in launching the local purchasing component of PICA Head Start's program. To ensure that teacher training can take place in a timely way, we now plan to work with our partners to get trainings on the calendar as one of the first components of program planning early on in the beginning of the year, and to schedule the trainings for the spring as possible so that teachers will be prepared for the program well ahead of the growing season when they would be expected to use the curriculum.

The delay in changing PICA's local purchasing practices came from an underestimation of the amount of time needed to follow their internal protocol for committing to new programs and making purchasing decisions. We had based our projections on our previous experience with smaller Head Start programs with dedicated Nutrition Coordinator positions who had greater decision making authority over purchasing practices and less bureaucracy to navigate when implementing new programs. An important lesson from this experience is to clearly and explicitly establish the decision making structure from the outset of the partnership, and to create a formal MOU to outline responsibilities from the beginning of the program rather than relying on word-of-mouth agreements. Had we done this, I believe we would have been able to accurately project that working with a large program with a complicated bureaucracy like PICA's would take longer than our previous experiences.

In 2017, a significant challenge was the delayed decision of our fifth partner, Dakota County Head Start, to back out of our partnership due to internal capacity issues as they renegotiated their mainline distribution contract. Please see above for the full explanation of our experience with them.

Additionally, in our partnerships with Willmar UCAP Head Start and with Mora Lakes and Pines Head Start, we were unable to stick to our projected timeline of having them launch their local purchasing right away when the children started their regular session in the fall due to delays in making the supply chain connections we needed with local farmers in their areas. We were eventually successful in making the connections, however the length of time they were participating in local procurement was truncated, and thus the amount of local food they have purchased was reduced from what we expected.

In the case of Dakota County's decision to back out of our partnership, it came too late in the year for us to replace them with a different partner. We hope to work with them in the future in order to build on the planning work we did in the first half of the year. In the end, this outcome may have been a good thing, since the remaining partners we had needed a higher level of technical support than we had anticipated based on our previous experience, and working with four partners instead of five gave us more time to provide the level of support they needed.

As outlined in the description of our work above, with our partners whose supply chains were difficult to arrange, we attempted many different methods of local procurement connections before we found a method that was successful. We are proud that we were tenacious in continuing to try different methods until we found one that worked! These delays came from an underestimation of

the amount of time we would need to build the connections. We had based our projections on our previous experience with Head Start programs located in areas near cities with more robust local distribution supply chain options in place. An important lesson from this experience is to realize that rural areas may face more challenges in creating these connections, and may need more time than our previous partners to get local procurement in place. In retrospect, with these particular partners who faced greater barriers, we now wish we could have planned for a two year term of technical support as we only were able to get the supply chain built towards the end of our local growing system.

ADDITIONAL INFORMATION

WORK PLAN

Quarter 1 2016

Activity	Responsible staff	Timetable	Completed
Develop outreach materials based on current Farm to Head Start collaboration with CAPRW.	Erin McKee (EM), Colleen Borgendale (CB)	January	Y
Conduct mailing of outreach materials.	Catherine Regan (CR)	February	Delivered in person at conferences
Plan for the implementation of Farm to Head Start with 3 partner counties (Drawing from this pool of likely partners: PICA Head Start, Duluth Head Start and Arrowhead Head Start. Anoka County Head Start and Rochester Head Start).	EM, Pete Huff (PH)	January - March	Final partners: Reach Up and Families First
Conduct follow-up calls on February mailing.	EM, CR	March	Y
Support Head Start programs to hire one intern to support each program in Farm to Head Start implementation.	EM	March	Y
Schedule check in calls with Head Start programs (inviting other partners as necessary) to ensure smooth implementation of program.	EM, CR	Ongoing	Y
Support Head Start programs in connecting with local growers and arrange in person meetings with identified local growers to plan highlighted locally grown food calendar for the year.	EM	February-March	Y
Use IATP's "train the trainer" materials to train key Head Start staff to conduct training on the Farm to Head Start curriculum and general program.	EM	April	Y
Support Head Start as they train staff on the Farm to Head Start program.	EM	May	Y

Conduct outreach and, if accepted, workshops at the National Child and Adult Food Care Program (CACFP) Conference and National Head Start Conference.	EM	February-April	Y
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Quarter 2 2016

Activity	Responsible staff	Timetable	Completed (Y/N)
Support launch of implementation of program at Head Start centers.	EM, new Program Assistant Katie Costello (KC)	June	Y
Support Head Start programs to plan and hold parent outreach event(s) (for example: community meals, cooking classes, presentations on healthy eating etc.) and evaluate them with partners to determine future events.	EM	July-August	Y
Support Head Start programs to plan and hold children's field trips to local farms providing their food as possible.	EM	July-August	Y
Identify and build relationships with additional Head Start programs to work with in 2017.	EM	July-August	Y
Conduct outreach and, if accepted, workshop at the National Farm to Cafeteria Conference.	EM	July-August (TBD)	Yes, multiple workshops

Quarter 3 2016

Activity	Responsible Staff	Timetable	Completed (Y/N)
Support implementation of program at Head Start centers.	EM, KC	Ongoing	Y
Conduct mid-project evaluation. (Some mixture of site visits and online surveys of staff at each center to learn about their experience to date. Possible survey for parents, or informal focus group at the second quarter parent outreach events.)	EM	September	Y
Based on evaluation feedback, determine how to address specific problems and incorporate suggestions and innovations from staff.	EM	September	Y
Support Head Start program staff in planning nutrition activities with children in the classroom.	EM, KC	September-October	Y
Confirm additional programs to support in 2017.	EM	September-October	Y

Quarter 4 2016

Activity	Responsible staff	Timetable	Completed (Y/N)
Work with IATP communications department and Head Start programs to determine an appropriate media outreach effort to publicize the project.	EM, CB	November - December	Y
Conduct outreach or workshop on the project at National Head Start Parent conference in December.	EM	December	Y
Hold a debrief session with partners to obtain their feedback, conduct focus group or online survey for staff from each program, and possibly conduct an informal focus group or online survey with parents.	EM, KC	November - December	Y
Conduct final analysis of implementation based on evaluation data.	EM	December	Y
Support Head Start programs in determining plan for continuing Farm to Head Start in 2017.	EM	December	Y

Quarter 1 2017

Activity	Responsible staff	Timetable	Completed (Y/N)
Plan for the implementation of Farm to Head Start with 5 additional partner counties (identified in 2016).	EM, KC	January - March	Y
Support Head Start programs to hire one intern to support each program in Farm to Head Start implementation.	EM	March	N/A
Schedule check in calls with new Head Start program partners (inviting other partners as necessary) to ensure smooth implementation of program.	EM	Ongoing	Y
Provide troubleshooting support for 2016 Head Start partners.	EM	Ongoing	Y
			Y
Support Head Start programs in connecting with local growers and arrange in person meetings with identified local growers to plan highlighted locally grown food calendar for the year.	EM	February-March	Y
Use IATP's "train the trainer" materials to train key Head Start staff to conduct training on the Farm to Head Start curriculum and general program.	EM	April	Y
Support Head Start as they train staff on the Farm to Head Start program.	EM	May	Y
Conduct outreach and, if accepted, workshops at the National Child and Adult Care Food Program (CACFP) Conference and National Head Start Conference.	EM	February-April	Y

Quarter 2 2017

Activity	Responsible staff	Timetable	Completed (Y/N)
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Support launch of implementation of program at Head Start centers.	EM	June	Y
Support Head Start programs to plan and hold parent outreach event(s) (for example: community meals, cooking classes, presentations on healthy eating etc.) and evaluate them with partners to determine future events.	EM, KC	July-August	Y
Support Head Start programs to plan and hold children's field trips to local farms providing their food as possible.	EM	July-August	Y
Provide troubleshooting support for 2016 Head Start partners.	EM	Ongoing	Y

Quarter 3 2017

Activity	Responsible Staff	Timetable	Completed (Y/N)
Support implementation of program at Head Start centers.	EM,	Ongoing	Y
Conduct mid-project evaluation. (Some mixture of site visits and online surveys of staff at each center to learn about their experience to date. Possible survey for parents, or informal focus group at the second quarter parent outreach events.)	EM, KC	September	Y
Based on evaluation feedback, determine how to address specific problems and incorporate suggestions and innovations from staff.	EM, KC	September	Y
Support Head Start program staff in planning nutrition activities with children in the classroom.	EM, KC	September -October	Y
Provide troubleshooting support for 2016 Head Start partners.	EM	Ongoing	Y

Quarter 4 2017

Activity	Responsible staff	Timetable	Completed (Y/N)
Work with IATP communications department and Head Start programs to determine an appropriate media outreach effort to publicize the project.	EM, CB	November - December	Y
Conduct outreach or workshop on the project at National Head Start Parent conference in December.	EM	December	Y
Hold a debrief session with partners to obtain their feedback, conduct focus group or online survey for staff from each program, and possibly conduct an informal focus group or online survey with parents.	EM, KC	November - December	Y

Conduct final analysis of implementation based on evaluation data.	EM	December	Y
Work with IATP Communications to develop a brief report and/or blog about the project and wrap up media outreach.	EM, CB	December	Y

Project quantitative data:

-Link to quantitative report data (but is missing the final update):

https://drive.google.com/file/d/1SM6ho4yHt5yo44lmkSyLLLozPlDhk_UT/view?usp=sharing

-The complete set of 2016 – 2017 grant report data is in an excel spreadsheet apart from Final Performance Report and is available upon request.

Project 9

MN Specialty Crop Block Grant – Federal Fiscal Year 15 FINAL PERFORMANCE REPORT

Contact: Dennis Emslie Drummond

Organization: Central Lakes College

Contact information: demslie@clcmn.edu

PROJECT TITLE

Statewide Viticulture and Enology Instructor

PROJECT SUMMARY

A part time (40%) position was developed to help meet the demand for enology and viticulture education in Minnesota. Without proper technical advice, new wineries and vineyards risk failing due to inadequate financial planning, poor equipment or poor grape quality. The new

statewide instructor will make visits to vineyards and wineries to address critical issues such as vineyard assessment and review and equipment review. Our goal is to educate winemakers and grape growers to improve wine quality and profitability by giving them access to personalized instruction from a seasoned professional. The program will be administered through the Central Lakes College Continuing Education Program and the regional Agriculture Center for Excellence.

In 2015, the University of Minnesota has lost the wine chemist, the enologist and the viticulture researcher, leaving no statewide technical support for people who are operating wineries or growing grapes. Minnesota wine makers and grape producers must turn to experts from surrounding states if they have specific questions on pest control, marketing or wine quality. There are Extension specialists in Viticulture and Enology in Iowa, Illinois, Wisconsin, Michigan and Ohio, but they are not familiar with Minnesota's unique climate, and they may not have time to give personalized attention to a grower from another state. Entrepreneurs entering the grape growing and wine industry have expressed a need to the Minnesota Grape Growers Association (MGGA) for technical help, which used to be partly available through the University of Minnesota. The MGGA is applying for funding to develop a new extension position, but realistically, it may take a couple of years before the legislature will appropriate the necessary monies and hire a new professional. The new statewide instructor at Central Lakes College will fill in the gap until a new position is created.

The grape growing and winery industries have become a key part of the Minnesota economy, contributing \$59 million in economic activity in 2011. Of this, \$16.4 million was generated by vineyards, \$22.1 million by wineries, and \$20.5 million by winery tourists. In 2011, there were 3250 people employed in the grape growing and winery industries receiving a total of \$19.7 million in labor payments. The industry continues to grow rapidly. Forty-four percent of wineries have begun operations since 2007. Since grapes need three to four years to mature, there is a lag with those grapes being available for market. There are over 70 farm winery licenses in Minnesota, of which around 45 are active. This means that many wineries have the license but have not opened to the public. Wineries that are about to open encounter a host of problems and will increase their chance of success if provided with the right technical help. Growers and wine makers have expressed an interest in training and education on topics such as vineyard equipment, wine making equipment and Integrated Pest Management, but there is nobody at the University of Minnesota to supply the necessary information during the critical time when the winery opens to the public. Central Lakes College currently has a viticulture and enology expert who is ideally poised to facilitate this project.

In addition, the Food Safety and Modernization Act (FSMA) was expected to be implemented at the end of 2015. At the time this grant project began, the requirement details of the FSMA, as they pertain to producing grapes and wine, were still being worked out, and the Minnesota Grape Growers Association (MGGA) wanted to designate an expert to review the proposed rules.

PROJECT APPROACH

Guide entrepreneurs to help their profitability:

Growers were informed about the service through the MGGA google group email, presentations at the Cold Climate Conference in 2017 and 2018, plus materials at the VESTA booth in the trade show. Also I presented the service at the Minnesota Farm Winery meetings and MGGA board meetings.

- i. Helped winery and vineyard clients purchase and sell equipment using online comparisons, while understanding the quality of the materials and the options available.
- ii. Educated growers on organic techniques verses conventional farm management, with the understanding of sustainability for long term health of the farm. The clients are given options on how to overcome a problem. Often other growers in the MGGA and client list are asked their solutions to get other opinions.
- iii. Helped growers find markets for their grapes using online resources and local networking. Gave advice to clients on how to improve the grape quality to reach winery quality requirements. Gave a presentation at the Cold Climate Conference 3/17/2018 on Harvest Parameters (when is the right time to harvest?) to educate growers to maximize the grape quality to receive the maximum price for their grapes.

Using the Minnesota Grape Growers Association (MGGA) Google group as a timely tool to discuss with new and seasoned wine industry personnel on issues is a very helpful tool that is directing entrepreneurs to seek more knowledge. In addition, the MGGA website has the MDA information needed for the winery requirements, plus links to other UMN information. Some clients are taking VESTA online classes to help their businesses.

Our project targets were realistic and attainable, but client response was less than expected. Baseline data was not collected. The participants were surveyed using the survey monkey; favorable responses were given.

Since this grant project was started, the University of Minnesota hired an Enologist, Andrew Horton. We have connected with him and continue to converse on various topics in winemaking. The use of bentonite to reduce proteins in Marquette juice, and de-acidification of juice are areas we have discussed.

GOALS AND OUTCOMES ACHIEVED

Goal 1. Guide individual entrepreneurs to help improve their profitability.

a. Number of Clients:

Name	Address	Hours	Fee	Date	Vyd size	Vyd skill	Winery size	Wine Skill	repeat?
1. Expansion & Plan winery	Cambridge, MN	1	32	4/21/2016	2A	low			yes
		1	50	8/3/2016					
		1.5	60	6/20/2017					
		0.5	20	9/13/2017					
2. Established winery	Plainview, MN	4	128	4/22/2016	2.5A	High	800cs', 2000G High		no
MDA inspection class	Anoka, MN			4/29/2016					

3. Winery & Vyd	Parkers Prairie, MN	2	64	5/9/2016	3A	High	New 400G+	High-VESTA	yes
		2.5	100	11/9/2017					
4. Winery & Vyd plan	Barrett, MN	3	96	5/9/2016	3A	low	plan	new	yes
5. Winery & Vyd plan	Detroit Lakes, MN	3	96	5/12/2016	3A	low	plan	new	yes
		5	160	9/12/2016					
		3.5	112	10/7/2016					
		2	80	11/9/2016					
		2	80	12/12/2016					
		3	120	4/14/2017					
		2.5	100	6/8/2017					
6. Winery & Vyd	E Grand Forks, MN	4	128	5/16/2016	4A	Med	Recent 500G	Good	yes
		2.5	100	1/5/2017					
7. Winery & Vyd plan	Minnetrista, MN	3	96	5/19/2016	2A	High	plan	new	Yes
		2	64	10/12/2016					
		2.5	100	1/11/2017					
		3	120	2/3/2017					
		4	160	2/8/2017					
		3	120	2/23/2017					
		4	160	3/2/2017					
		4	160	4/13/2017					
		2.5	100	9/6/2017					
		2.5	100	9/27/2017					
		4	160	11/20/2017					
		1	40	1/15/2018					
		3	120	2/7/2018					
		1.5	60	2/21/2018					
		2.5	100	3/21/2018					
8. Winery & Vyd	Brandon, MN	4	128	6/16/2016	2A	High	400+	Good	Yes
9. Winery & Vyd	Round Lakes, MN	14	448	10/6/2016	26 A	High	4,000 cs'	High	Yes
		6	192	11/14/2016					
10. Vyd, & Winery plan	Glenwood, MN	4.5	144	9/22/2016	14 A	High	plan		maybe
11. Small Vyd	Fort Ripley, MN	2	64	9/23/2016	22plants	Low			maybe
12. Small Vyd	Hillman, MN	1	40	3/8/2017	1/2 A	Low			maybe
		1	40	6/20/2017					
13. Vyd & Winery Plan	Preston, MN	2.5	100	6/6/2017	15 A	High	plan		maybe
14. Vyd	Fort Ripley, MN	0.5	20	9/13/2017	3A	High		Low	maybe
15. Vyd & Winemaking	Deerwood, MN	1	40	10/13/2017		Low			maybe
TOTALS		122	4402						

- i. Expectation: 52 growers. Actual in 27 months: 15 growers
- ii. Expectation: 208 farm visits. Actual in 27 months: 42 visits
- iii. Expectation: 2-4 hours per visit. Actual in 27 months: 122 hours/42 = 2.9 hours per visit

b. Client # 11 started a winery, and plans were done for four others. #5 quit and was helped to sell his equipment. #9 needed help during harvest, and wine analysis. #13 had started building without having the Federal License application completed, with a 150 day wait time, and would have been illegal.

c. Survey of learning before and after: A survey was done after the service

- i. Developed a survey monkey questionnaire (See attached) and 5 have answered so far, with all positive results. There was a suggestion to contact another client, which was completed with no response.
- d. FINPACK analysis training has been completed by Dennis Emslie. The farm and agricultural management, financial, and accounting software, called FINPACK, helps producers, lenders, and agricultural professionals evaluate a farm's financial position, explore alternatives, and make informed farm management decisions. In addition to determining the current situation and profitability of farms, the software has a long-range planning tool for farmers to explore alternative financial scenarios, and strategically position the farm's operation to meet future challenges. Once a user establishes a clear picture of the future farm business, the software will project cash flows, revenues, expenses, debt repayment and operating credit requirements for any portion of a year or entire years up to 10 years. There have been no requests for this service. Clients have been given Iowa State U. Excel Spreadsheets to help plan:
 - i. Winery Ten Year Financial Planning Workbook
 - ii. Vertical shoot positioning Vineyard twelve year Financial Planning Workbook
 - iii. Geneva Double Curtain workbook
- e. High Trellis Vineyard twelve year Financial Planning Workbook

Goal 2: Aid the MGGA with the Implementation of the Food Safety and Modernization Act (FSMA). This Goal was achieved in the last period without the need to write a brochure.

- a. Attended three MDA meetings on FSMA. Discussions with MGGA and MDA personnel were conducted at the meetings to emphasize the need for hand washing and floor drains in the wine tasting area that is generally not seen in other state wineries.

Wineries have long been subject to a complicated regulatory structure, with multiple agencies exercising oversight over aspects of the wine operation. FSMA changes effects: Register biennially with the FDA, Record keeping, Recalls if product poses a health risk, Import controls, Inspection authority, hand washing availability enforced, Inputs sources documented and Preventative Control Rule (food processors required to analyze food-safety risks and put a plan in place to minimize those risks, taking steps to assure food safety that are above and beyond their existing current Good Manufacturing Practices {GMPs <http://www.fda.gov/Food/GuidanceRegulation/CGMP/default.htm> }). The latter will impact wineries that sell or manufacture food. This is at present a gray area, as Farm Wineries are able to sell pre-packaged food in the tasting room.

- b. MDA Documents: Wineries- General Regulatory Information, Assessment of Wineries- Guidance, and Winery Assessment form. Minnesota Food Code, Chapter 4626 <http://www.health.state.mn.us/divs/eh/food/code/>
- c. Clients have asked for advice, and there is a way to ask for a variance for a minor deviation by directly contacting Dr. Ben Miller or the inspection supervisor. Client #6 tasting bar did not have a floor drain, and to mitigate would be cost prohibitive. There is some evidence that inspections vary by the individuals who are doing the inspections, but this is hard to quantify.

BENEFICIARIES

The primary beneficiaries benefited from this study are vineyard and winery owners and workers. MDA personnel also benefited from participant survey results and feedback on the MDA documents.

Beneficiaries were the client (15), members of the MGGA google group and those who attended the presentations (100), which were given directions on what to focus on in their business and were provided with technical advice.

LESSONS LEARNED

Growing grapes and making wine is very complicated with many variables, with a high degree of education and luck (Weather, Mildew pressure, pest damage, law suits, bad health, etc.) needed. Perseverance is also needed, as delays are hard to deal with given the federal and state government requirements that can cause expensive interruptions. Local rules on septic design, power supply, inspection by ag or health department (depending on the business structure), structural design and other areas need careful planning by the grower or wine maker.

Some clients were a long way from each other, so careful planning was needed to fulfill the consulting projects and travel was difficult given some weather and traffic obstacles at various times.

I was surprised at how few clients came forward, given the expense and planning needed to start grape growing and start a winery. Professional consulting is far more expensive than assistance provided by this grant project. The U of M wine specialist gives free advice and some visits to local wineries. They will be giving low cost workshops on various subjects, as they have done over the years.

ADDITIONAL INFORMATION

An attached power point on grape Harvest Parameters for optimal wine quality- a presentation at the Cold Climate Conference to over one hundred grape growers on March 17th at the Double Tree in Bloomington.

Project 10

MN Specialty Crop Block Grant – Federal Fiscal Year 15

FINAL PERFORMANCE REPORT

Contact: Terrance Nennich

Organization: Minnesota Fruit & Vegetable Growers Association

Contact information: mfvga@msn.com

PROJECT TITLE

Providing Production, Management and Marketing Strategies for Minnesota's Fruit and Vegetable Producers

PROJECT SUMMARY

The purpose of this project was to better equip fruit and vegetable producers for economic success through increased production efficiency and new strategies for direct marketing of fruits and vegetables.

The emphasis on and demand for local foods has increased through farm to school programs, co-ops, food hubs and sales to restaurants and institutions in addition to farmers' markets, community supported agriculture (CSAs) and on-farm sales. To be successful, small specialty crop farms need efficient production practices and effective marketing strategies to help them be more competitive in local markets, increase customer loyalty and manage social media to maintain connections with current customers and reach out to new customers. The use of high tunnels has increased dramatically in recent years. The number of farms offering CSA shares has increased, but many of them are having trouble retaining their customer base.

Education is always timely, but becomes more critical when time-sensitive issues arise such as the impact of the food safety modernization act, changes to local laws, challenges in managing new insects and other pests, and changes to the worker protection standard. In a constantly changing environment, information on efficient production methods, business and employee management, pest and disease identification and management and new approaches to marketing become critical.

To meet the increasing demand for local produce, fruit and vegetable growers need to be able to efficiently manage time and resources, produce a quality product, effectively market that product, and develop and maintain a loyal customer base. This project provided educational opportunities to help specialty crop growers in all of those areas.

This project complimented previously funded projects by providing additional educational opportunities for area specialty crop producers. Beginning growers who had received scholarships

for the Specialty Crop Management Program through Central Lakes College were able to interact with more experienced growers and improve their production and marketing skills.

PROJECT APPROACH

This project included support for two full-day workshops. One workshop focused on marketing strategies for fruit and vegetable growers who direct market their specialty crops through farmers' markets, community supported agriculture (CSAs), or directly from the farm through pick-your-own operations or on-farm markets or roadside stands. The other workshop was for beginning growers interested in starting a commercial vegetable operation or producers interested in expanding their operations to include high tunnel production of specialty crops. This project also included partial support for the 2016 and 2017 Upper Midwest Regional Fruit & Vegetable Growers Conference. Workshops were held on January 13, 2016. The 2016 Upper Midwest Regional Fruit & Vegetable Growers Conference was held on January 14 & 15, 2016. The 2017 Upper Midwest Regional Fruit & Vegetable Growers Conference was held on January 19 & 20, 2017.

Quantitative information is detailed later in report.

The Minnesota Fruit and Vegetable Growers Association Board of Directors and representatives from the University of Minnesota and U of M Extension worked on finalizing the educational program for the Upper Midwest Regional Fruit & Vegetable Growers Conference. Terry Nennich was instrumental in organizing the program for the Beginning Grower workshop. We contracted with Bob Negen to conduct the marketing workshop and provide a keynote presentation for the 2016 Upper Midwest Regional Fruit & Vegetable Growers Conference. Marilyn Johnson, MFVGA Executive Director, coordinated the final details for the workshops and conference, confirmed speakers, coordinated preparation and distribution of promotional materials, processed registrations, etc. Ms. Johnson also compiled evaluations and information from the workshops and conference and prepared reports.

GOALS AND OUTCOMES ACHIEVED

Activities completed included two full-day workshops – a marketing workshop with Bob Negen and a beginning grower workshop on January 13, 2016, the Upper Midwest Regional Fruit & Vegetable Growers Conference on January 14 & 15, 2016 and the Upper Midwest Regional Fruit & Vegetable Growers Conference on January 19 & 20, 2017.

Implementation of some of the marketing ideas takes time and results aren't always immediate. Comments from the marketing workshop and keynote address included the following:

- Great!
- Bob was an excellent speaker.
- Good way to kick off the conference – get us all thinking.
- Bob was outstanding. Best presenter I've ever seen at MFVGA. Thank you!

- Terrific way to kick off the conference. This set an upbeat tone. This session made the trip worthwhile.
- Bob Negen encouraged us to get good at marketing by thinking of ourselves not as growers but sellers.
- Bob Negen was a great speaker. Easy to hear, open to questions, engaging.

Strategies and tips employed by producers included:

- ✓ “Gift Certificates” to bring in new customers and reconnect with existing customers. One producer had 18% of the gift certificates returned and used to purchase product at her farm.
- ✓ Look past the immediate sale to build long-term relationships with customers.
- ✓ Train your staff – owners should not be the ‘best’ employees. Show your knowledge with your staff so they can deal with customers and interact with them as you would.
- ✓ Tried to give the customers a pleasant experience with a positive attitude from all employees.
- ✓ Make your farm an ‘event.’
- ✓ We are selling an experience.
- ✓ Approach the people you want to employ – don’t wait for them.

Some producers added more Facebook posts informing about special events or new opportunities. One producer added a delivery service. Some donated product for community events and increased marketing through radio ads and customized reusable bags. Some producers who were just getting started used business cards and Facebook to establish a presence prior to having product to sell in 2017. Other growers used a punch card with a discount offered when the card was ‘full’ or coupons and on-line promotions. Some added lawn signs to increase awareness.

Time will determine the long-term effect of the strategies.

Marketing Workshop: The goal was to increase effective marketing strategies for direct marketers including customer incentives and effective use of social media.

Performance Measure: 50 people attending

Target: 50 people attending with an 80% satisfaction rate

Actual attendance: 27 people attended the workshop

Attendance at the workshop was less than we anticipated, but the people who attended were very satisfied with the experience. We did have some issues with timing and promotion. Final approval was delayed which meant we couldn’t promote the workshop as early or aggressively as we had planned.

We also asked Bob Negen to give a keynote presentation on Thursday, January 14, 2016 during the Upper Midwest Regional Fruit & Vegetable Growers Conference. Approximately 130 people attended that session with a 91% satisfaction rate based on evaluations turned in at the conference.

Beginning Grower Workshops: The goal was to improve the knowledge base of beginning vegetable growers to better equip them for earlier and continued success.

Performance Measure: 25 people attending

Target: 35 people attending with an 80% satisfaction rate

Actual attendance: 23 people attended the workshop with a satisfaction rate of 94% based on evaluations returned after the workshop.

Upper Midwest Regional Fruit & Vegetable Growers Conference: The goal was to increase the knowledge base of experienced growers to enable them to better handle various production and marketing challenges.

Performance Measure: Grower participation in session discussions and conference program evaluations

Target: 250 people attending the educational conference with an 80% satisfaction rate

Actual attendance: 292 people attended the conference including 42 who attended the trade show only and speakers who also attended other educational sessions. The satisfaction rate based on evaluations turned in at the conference was 98%.

Conferences and workshops were held as scheduled. Initial evaluations were collected at the workshops and conferences. Follow up questions were included with a survey sent to members in the fall of 2016.

Initial Grower Survey results start on following page, followed by Grower Survey Results 12/5/15:

SCBG Program - FY 14 Beginning Grower Program (Central Lakes College)

Initial Grower Survey

Name: _____ (Dec. 5, 2015 responses)

How long have you been growing and selling fruits & vegetables commercially? _____

- Peter Clay – 5 years
- David & Mayen Dufner – 1 year
- Jerry & Kathy Hansen – 5 years
- Debby Hartman-Wrolson & Daryl Wrolson – We are not yet selling
- Andy Cotter & Irene Genelin – Not answered
- Robert Nibbe – Not answered
- Mike Sjomeling – Less than 1 year

What is the total size of your farm (in acres)? _____

- Peter Clay – 92 acres
- David & Mayen Dufner – 50 acres
- Jerry & Kathy Hansen – 57 acres
- Debby Hartman-Wrolson & Daryl Wrolson – 5 acres
- Andy Cotter & Irene Genelin – Not answered
- Robert Nibbe – 160
- Mike Sjomeling - 43

How many acres are currently in specialty crop production? _____

- Peter Clay – 7 acres
- David & Mayen Dufner – 4.5 acres
- Jerry & Kathy Hansen – 10 acres
- Debby Hartman-Wrolson & Daryl Wrolson – 1.75 acres
- Andy Cotter & Irene Genelin – Not answered
- Robert Nibbe – Not answered
- Mike Sjomeling – Approximately 20

How many acres do you expect to have in specialty crop production in the next three to five years? _____

- Peter Clay – 7 acres
- David & Mayen Dufner - 6
- Jerry & Kathy Hansen – 10-12
- Debby Hartman-Wrolson & Daryl Wrolson – 3
- Andy Cotter & Irene Genelin – Not answered
- Robert Nibbe – 7
- Mike Sjomeling – Approximately 20

What crops do you grow? _____

- Peter Clay – Apples, strawberries, raspberries, tomatoes, 40 vegetables
- David & Mayen Dufner – strawberries, raspberries, asparagus
- Jerry & Kathy Hansen - strawberries
- Debby Hartman-Wrolson & Daryl Wrolson – Apples, garlic
- Andy Cotter & Irene Genelin – Not answered
- Robert Nibbe – Asparagus, sweet corn, tomatoes, pumpkins, squash

David & Mayen Dufner - Yes
 Jerry & Kathy Hansen - Yes
 Debby Hartman-Wrolson & Daryl Wrolson – Yes
 Andy Cotter & Irene Genelin – Yes
 Robert Nibbe – Yes
 Mike Sjomeling – Not answered

Do you know how to read a soil test report? Yes No

Peter Clay - Yes
 David & Mayen Dufner - Yes
 Jerry & Kathy Hansen - Yes
 Debby Hartman-Wrolson & Daryl Wrolson – Yes
 Andy Cotter & Irene Genelin – Yes / No
 Robert Nibbe – Yes
 Mike Sjomeling – Not answered

How do you market your crops? Indicate all that apply.

- Pick-your-own
 David & Mayen Dufner
 Jerry & Kathy Hansen (and pre-picked berries on-site)
- Farmers' Markets
 Peter Clay
- CSA
 Peter Clay
- Wholesale
- Cooperative
- Farm-to-School Program
 Robert Nibbe
- Other
 Debby Hartman-Wrolson & Daryl Wrolson – Word of mouth at this point
 Andy Cotter & Irene Genelin – Direct - Restaurants
 Robert Nibbe – Stand on farm
 Mike Sjomeling – Not answered

How do you set your pricing? _____

Peter Clay – Organic price list online
 David & Mayen Dufner – By what others in the area are charging
 Jerry & Kathy Hansen – Consultant, state averages, call nearest competitors
 Debby Hartman-Wrolson & Daryl Wrolson – Market value
 Andy Cotter & Irene Genelin – Based on others – ask around
 Robert Nibbe – Local market prices
 Mike Sjomeling – Not answered

Have you completed a business plan? Yes No

Peter Clay - No
 David & Mayen Dufner - Yes
 Jerry & Kathy Hansen - Yes

Debby Hartman-Wrolson & Daryl Wrolson – No
 Andy Cotter & Irene Genelin – Yes
 Robert Nibbe – No
 Mike Sjomeling - No

Are you familiar with Good Agricultural Practices? Yes No
 Peter Clay - Yes
 David & Mayen Dufner - No
 Jerry & Kathy Hansen - No
 Debby Hartman-Wrolson & Daryl Wrolson – Yes
 Andy Cotter & Irene Genelin – Yes
 Robert Nibbe – Yes
 Mike Sjomeling - No

Do you have a written food safety plan? Yes No
 Peter Clay - Yes
 David & Mayen Dufner - No
 Jerry & Kathy Hansen - No
 Debby Hartman-Wrolson & Daryl Wrolson – No
 Andy Cotter & Irene Genelin – No
 Robert Nibbe – No
 Mike Sjomeling - No

What do you use to record your business income and expense?
 _____ Computer accounting/bookkeeping program (like QuickBooks)
 _____ Computer spreadsheet (like Excel)
 Peter Clay
 David & Mayen Dufner
 Jerry & Kathy Hansen
 Andy Cotter & Irene Genelin
 Mike Sjomeling
 _____ Manual ledger system
 Debby Hartman-Wrolson & Daryl Wrolson
 Robert Nibbe
 _____ Other _____
 David & Mayen Dufner – no further information

Do you file a Schedule F with your 1040 tax return? Yes No
 Peter Clay - Yes
 David & Mayen Dufner - Yes
 Jerry & Kathy Hansen - Yes
 Debby Hartman-Wrolson & Daryl Wrolson – No
 Andy Cotter & Irene Genelin – Yes
 Robert Nibbe – Yes
 Mike Sjomeling – Not answered

Do you prepare or does your accountant prepare a balance sheet for your business? Yes No
 Peter Clay - No
 David & Mayen Dufner - Yes
 Jerry & Kathy Hansen - Yes

Debby Hartman-Wrolson & Daryl Wrolson – Yes
 Andy Cotter & Irene Genelin – Yes
 Robert Nibbe – Not answered
 Mike Sjomeling – Not answered

What types of business analyses have you completed? _____

Peter Clay – Profit / Loss
 David & Mayen Dufner – Profit / Loss
 Jerry & Kathy Hansen – Business plan, run numbers on profitability of corn maze
 Debby Hartman-Wrolson & Daryl Wrolson – None yet
 Andy Cotter & Irene Genelin – With Farm Business Management
 Robert Nibbe – Not answered
 Mike Sjomeling – Not answered

What type of production records to you keep? _____

Peter Clay – Seeds, Planting dates
 David & Mayen Dufner – A little early yet / expenses
 Jerry & Kathy Hansen – Yield, income & expense report, balance sheet
 Debby Hartman-Wrolson & Daryl Wrolson – None yet
 Andy Cotter & Irene Genelin – Pounds / amount
 Robert Nibbe – Notebooks (sketchy)
 Mike Sjomeling – Not answered

How do you estimate your yield each spring? _____

Peter Clay – Records from online sources
 David & Mayen Dufner - Guesstimate
 Jerry & Kathy Hansen - Thaddeus
 Debby Hartman-Wrolson & Daryl Wrolson – Don't yet
 Andy Cotter & Irene Genelin – Yes
 Robert Nibbe – U of M Extension reports, etc.
 Mike Sjomeling – Not answered

Do you compare actual yields to estimates? Yes No

Peter Clay - No
 David & Mayen Dufner - Yes
 Jerry & Kathy Hansen - Yes
 Debby Hartman-Wrolson & Daryl Wrolson – Not answered
 Andy Cotter & Irene Genelin – Yes
 Robert Nibbe – Yes
 Mike Sjomeling – Not answered

Do you include un-harvested product? Yes No

Peter Clay - No
 David & Mayen Dufner - No
 Jerry & Kathy Hansen - Yes
 Debby Hartman-Wrolson & Daryl Wrolson – Not answered
 Andy Cotter & Irene Genelin – No
 Robert Nibbe – Yes
 Mike Sjomeling – Not answered

Are your actual yields close to your estimated amounts? Yes No

Peter Clay - Yes
 David & Mayen Dufner - Yes
 Jerry & Kathy Hansen - Yes
 Debby Hartman-Wrolson & Daryl Wrolson – Not answered
 Andy Cotter & Irene Genelin – No
 Robert Nibbe – No
 Mike Sjomeling – Not answered

Are your actual yields higher or lower than the estimates? Higher Lower

Peter Clay - Higher
 David & Mayen Dufner - Lower
 Jerry & Kathy Hansen - Higher
 Debby Hartman-Wrolson & Daryl Wrolson – Not answered
 Andy Cotter & Irene Genelin – Lower
 Robert Nibbe – Lower
 Mike Sjomeling – Not answered

What percentage of your yield are you able to sell? _____

Peter Clay – 60%
 David & Mayen Dufner – 80%
 Jerry & Kathy Hansen – 85%
 Debby Hartman-Wrolson & Daryl Wrolson – Not answered
 Andy Cotter & Irene Genelin – Apples = 80%
 Robert Nibbe – Approximately 80%
 Mike Sjomeling – Not answered

If you have too much unsold product, can you identify the reason(s)?

_____ Not enough customers
 David & Mayen Dufner
 _____ Bad weather day at the market
 _____ Quality issues – not marketable
 Peter Clay
 _____ Insect damage
 Peter Clay
 _____ Bumper crop
 Robert Nibbe
 _____ Too much competition with the same products
 _____ Other _____

Jerry & Kathy Hansen – The unsold are the smallest berries or missed and over-ripe
 Andy Cotter & Irene Genelin – N/A
 Robert Nibbe – Deer Predation
 Mike Sjomeling – Not answered

Have you projected annual income and expense? Yes No

Peter Clay - Yes
 David & Mayen Dufner - Yes
 Jerry & Kathy Hansen – Yes

Debbly Hartman-Wrolson & Daryl Wrolson – No
 Andy Cotter & Irene Genelin – Yes
 Robert Nibbe – No
 Mike Sjomeling – Not answered

Have your income/expense projections been accurate? Yes No
 Peter Clay - No
 David & Mayen Dufner - Yes
 Jerry & Kathy Hansen - Yes
 Debbly Hartman-Wrolson & Daryl Wrolson – No
 Andy Cotter & Irene Genelin – No
 Robert Nibbe – Not answered
 Mike Sjomeling – Not answered

Do you separate your business and personal income and expense? Yes No
 Peter Clay - Yes
 David & Mayen Dufner - Yes
 Jerry & Kathy Hansen - Yes
 Debbly Hartman-Wrolson & Daryl Wrolson – Yes
 Andy Cotter & Irene Genelin – Yes
 Robert Nibbe – Yes
 Mike Sjomeling – To be determined

Do you have a job off the farm? Yes No
 Peter Clay - No
 David & Mayen Dufner - Yes
 Jerry & Kathy Hansen - Yes
 Debbly Hartman-Wrolson & Daryl Wrolson – Not answered
 Andy Cotter & Irene Genelin – Yes
 Robert Nibbe – Yes
 Mike Sjomeling - Yes

How many hours/week do you work OFF the farm? _____
 David & Mayen Dufner - 50
 Jerry & Kathy Hansen – 40 times 2
 Debbly Hartman-Wrolson & Daryl Wrolson – 40
 Andy Cotter & Irene Genelin – 40
 Robert Nibbe – 40
 Mike Sjomeling - 40

How many hours/week do you work ON the farm? _____
 David & Mayen Dufner – In season – 40+
 Jerry & Kathy Hansen – 10 average each (more in season)
 Debbly Hartman-Wrolson & Daryl Wrolson – 20 / 30
 Andy Cotter & Irene Genelin – 40
 Robert Nibbe – 30
 Mike Sjomeling - 60

Do you have a spouse/partner/other family member who also works on the farm? Yes No

Peter Clay - No
 David & Mayen Dufner - Yes
 Jerry & Kathy Hansen - Yes
 Debby Hartman-Wrolson & Daryl Wrolson – Yes
 Andy Cotter & Irene Genelin – Yes
 Robert Nibbe – Yes
 Mike Sjomeling - Yes

What percentage of your total income comes from the farm? _____

Peter Clay – 20%
 David & Mayen Dufner – Less than 5%
 Jerry & Kathy Hansen – 1/3
 Debby Hartman-Wrolson & Daryl Wrolson – 1% at this point
 Andy Cotter & Irene Genelin – 5%
 Robert Nibbe – 20%
 Mike Sjomeling – Less than 20%

What percentage of your total income would you like to come from the farm? _____

Peter Clay – 30%
 David & Mayen Dufner – 40%
 Jerry & Kathy Hansen – 100%
 Debby Hartman-Wrolson & Daryl Wrolson – 20%
 Andy Cotter & Irene Genelin – 100%
 Robert Nibbe – 50%
 Mike Sjomeling – 100%

Have you hired employees to work on your farm? Yes No

Peter Clay - Yes
 David & Mayen Dufner - Yes
 Jerry & Kathy Hansen - Yes
 Debby Hartman-Wrolson & Daryl Wrolson – No
 Andy Cotter & Irene Genelin – Yes
 Robert Nibbe – Yes
 Mike Sjomeling - Yes

Do you have an employee manual? Yes No

Peter Clay - Yes
 David & Mayen Dufner - No
 Jerry & Kathy Hansen - No
 Debby Hartman-Wrolson & Daryl Wrolson – No
 Andy Cotter & Irene Genelin – No
 Robert Nibbe – No
 Mike Sjomeling - Yes

What are your financial goals?

Short term goals: _____

Peter Clay – Make a 35% profit
 David & Mayen Dufner – For the farm to start paying for its expenses.
 Jerry & Kathy Hansen – Weed control, increase yield on current acres, better quality pickers

Debby Hartman-Wrolson & Daryl Wrolson – Not answered
 Andy Cotter & Irene Genelin – Grow business
 Robert Nibbe – \$40-50 K per year with various income streams
 Mike Sjomeling – Not answered

Long term goals: _____

Peter Clay – Double the size
 David & Mayen Dufner – Financially independent
 Jerry & Kathy Hansen – Full time farmers with profitability. Add more crops
 Debby Hartman-Wrolson & Daryl Wrolson – Not answered
 Andy Cotter & Irene Genelin – Quiet off-farm job (quit???)
 Robert Nibbe – 10-15 year time prior to moving to lesser activity
 Mike Sjomeling – Not answered

What are your production goals?

Short term goals: _____

Peter Clay – Higher yield per plant
 David & Mayen Dufner – Get picked out
 Jerry & Kathy Hansen – 6,000 lbs/ acre and better weed control
 Debby Hartman-Wrolson & Daryl Wrolson – Not answered
 Andy Cotter & Irene Genelin – Continue to expand
 Robert Nibbe – 7 acre pumpkin, 1 acre sweet corn, 1 acre asparagus, ½ acre squash,
 4-5 high tunnels?
 Mike Sjomeling – Not answered

Long term goals: _____

Peter Clay – Grow the sales to make a sale of 85% of what we grow.
 David & Mayen Dufner – 15,000 lbs / acre
 Jerry & Kathy Hansen – 10,000 lbs / acre
 Debby Hartman-Wrolson & Daryl Wrolson – Not answered
 Andy Cotter & Irene Genelin – Have top crops to full potential
 Robert Nibbe – Not answered
 Mike Sjomeling – Not answered

Have you attended Beginning Grower Workshops sponsored by MFVGA?	Yes	No
Peter Clay – Yes – Getting Started in High Tunnel Production		
David & Mayen Dufner – Yes – Beginning Berry Workshop		
Jerry & Kathy Hansen – Yes – Beginning berry workshop, Starting an apple orchard,		
Debby Hartman-Wrolson & Daryl Wrolson – Yes – Starting an apple orchard		
Andy Cotter & Irene Genelin – Yes – Beginning Berry Production, Starting an apple orchard		
Robert Nibbe – Yes – Getting Started in High Tunnel Production		
Mike Sjomeling - No		

If “Yes”, please indicate which workshops you have attended:

Beginning Berry Production	Yes	No
Starting an Apple Orchard	Yes	No
High Density Apple Production (2015)	Yes	No

Getting Started in High Tunnel Production	Yes	No
Your Future in Vegetable Production	Yes	No

Do you attend the Upper Midwest Regional Fruit & Vegetable Growers Conference? Yes No

Peter Clay - Yes
 David & Mayen Dufner - Yes
 Jerry & Kathy Hansen - Yes
 Debby Hartman-Wrolson & Daryl Wrolson – Yes
 Andy Cotter & Irene Genelin – Yes
 Robert Nibbe – Yes
 Mike Sjomeling - No

Have you attended a beginning grower or farmer workshop sponsored by another organization? Yes No

Please name the organization _____

Peter Clay – Yes – Organic Conference
 David & Mayen Dufner - No
 Jerry & Kathy Hansen - No
 Debby Hartman-Wrolson & Daryl Wrolson – No
 Andy Cotter & Irene Genelin – Yes - MOSES
 Robert Nibbe – No
 Mike Sjomeling - No

Have you taken any ag/horticulture classes for college credit?

Peter Clay - No
 David & Mayen Dufner – No
 Jerry & Kathy Hansen – Yes, Penn State online 10 x 2 credit hours
 Debby Hartman-Wrolson & Daryl Wrolson – Not answered
 Andy Cotter & Irene Genelin – No
 Robert Nibbe – Not answered
 Mike Sjomeling – Not answered

If yes, what institution? _____

Number of credits or degrees earned: _____

What do you enjoy the most about farming? _____

Peter Clay – Raising crop
 David & Mayen Dufner – Spending time / learning time with the family; offering opportunity to community kids / farm and just having customers come out to visit
 Jerry & Kathy Hansen – Satisfaction of growing a quality product, own boss, working with customers
 Debby Hartman-Wrolson & Daryl Wrolson – Not answered
 Andy Cotter & Irene Genelin – Outside
 Robert Nibbe – Not answered
 Mike Sjomeling – Not answered

What do you enjoy the least about farming? _____

Peter Clay - Weeds
 David & Mayen Dufner – Pulling weeds
 Jerry & Kathy Hansen – Weeding, low cash flow, weather out of control
 Debby Hartman-Wrolson & Daryl Wrolson – Not answered
 Andy Cotter & Irene Genelin – Too easy to work too much

Robert Nibbe – Weeds
Mike Sjomeling – Not answered

Where would you like to see yourself/your farm in five years? _____

Peter Clay – As I age, finding work force.

David & Mayen Dufner – No loans, more know how and the go to farm.

Jerry & Kathy Hansen – Family run (with boys help), financially sound, maximum earning potential,
additional agri-business (corn maze, additional crops)

Debby Hartman-Wrolson & Daryl Wrolson – Not answered

Andy Cotter & Irene Genelin – Being self sufficient

Robert Nibbe – Not answered

Mike Sjomeling – Not answered

SCBG Program – FY 14 Beginning Grower Program (Central Lakes College)

Grower Survey – Fall/Winter 2015
(From December 5, 2015)

Name: _____

At the end of 2015, how many acres did you have in specialty crop production? _____

- Peter Clay - 7
- Dufners – 1.5
- Jerry & Kathy Hansen – 10
- Debby Hartman-Wrolson – 1.75
- Andy Cotter & Irene Genelin – 5
- Bob Nibbe – 7
- Mike Sjomeling – Approximately 20

Did you add specialty crops in 2015? Yes No

- Peter Clay - No
- Dufners - Yes
- Jerry & Kathy Hansen – No
- Debby Hartman-Wrolson – No
- Andy Cotter & Irene Genelin – Yes
- Bob Nibbe – Yes
- Mike Sjomeling – No

What was your most profitable crop in 2015? _____

- Peter Clay – Sweet corn
- Dufners – Strawberries
- Jerry & Kathy Hansen – Strawberries
- Debby Hartman-Wrolson – N/A
- Andy Cotter & Irene Genelin – Apples
- Bob Nibbe – Pumpkins
- Mike Sjomeling – Not answered

Were your production practices more efficient in 2015? Yes No

- Peter Clay - Yes
- Dufners - No
- Jerry & Kathy Hansen – Yes
- Debby Hartman-Wrolson – No
- Andy Cotter & Irene Genelin – Yes
- Bob Nibbe – Yes
- Mike Sjomeling – N/A

Were your marketing efforts more successful in 2015? Yes No

- Peter Clay - Yes
- Dufners - No
- Jerry & Kathy Hansen – Yes
- Debby Hartman-Wrolson – No

Andy Cotter & Irene Genelin – Yes

Bob Nibbe – Yes

Mike Sjomeling – N/A

Did you add new markets? If so, what did you add? Yes No

Peter Clay – Yes, Farmers’ markets

Dufners – Yes, Pick-your-own, Farmers’ markets

Jerry & Kathy Hansen – No (have pick-your-own and on-farm retail)

Debby Hartman-Wrolson – No

Andy Cotter & Irene Genelin – Yes

Bob Nibbe – Not answered

Mike Sjomeling – N/A

_____ Pick-your-own

_____ Farmers’ Markets

_____ CSA

_____ Wholesale

_____ Cooperative

_____ Farm-to-School Program

_____ On-farm retail

_____ Other _____

Debby Hartman-Wrolson – Word of mouth

Andy Cotter & Irene Genelin – Restaurants, CSA add-on

Bob Nibbe – From yard

In 2015, did you start, modify or complete a business plan, food safety plan, employee manual or other keeping system?

Business plan	Started	Modified	Completed
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Peter Clay - Started

Dufners - Completed

Jerry & Kathy Hansen – Modified

Debby Hartman-Wrolson – Started

Andy Cotter & Irene Genelin – Modified

Bob Nibbe – Started

Mike Sjomeling – Modified

Written food safety plan	Started	Modified	Completed
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Peter Clay – Completed

Dufners – Not answered

Jerry & Kathy Hansen – Not answered

Debby Hartman-Wrolson – Started

Andy Cotter & Irene Genelin – Not answered

Bob Nibbe – Not answered
 Mike Sjomeling – Modified

Employee manual	Started	Modified	Completed
Peter Clay – Completed			
Dufners – Not answered			
Jerry & Kathy Hansen – Not answered			
Debby Hartman-Wrolson – Started			
Andy Cotter & Irene Genelin – Not answered			
Bob Nibbe – Not answered			
Mike Sjomeling – Modified			

Other record keeping system	Started	Modified	Completed
Peter Clay – Started			
Dufners – Not answered			
Jerry & Kathy Hansen – Modified			
Debby Hartman-Wrolson – Started			
Andy Cotter & Irene Genelin – Modified			
Bob Nibbe – Not answered			
Mike Sjomeling – Modified			

Did you see an overall increase in yields in 2015?	Yes	No
Peter Clay - Yes		
Dufners – Yes – (1 st year)		
Jerry & Kathy Hansen – Yes		
Debby Hartman-Wrolson – No		
Andy Cotter & Irene Genelin – Yes		
Bob Nibbe – Yes		
Mike Sjomeling – Yes (informal observation)		

What percentage of your yield were you able to sell in 2015?	_____
Peter Clay – 70%	
Dufners – 80%	
Jerry & Kathy Hansen – 50-60%	
Debby Hartman-Wrolson – Not answered	
Andy Cotter & Irene Genelin – 80% (apples)	
Bob Nibbe – 90%	
Mike Sjomeling – 90%	

Did your income from the farm increase in 2015?	Yes	No
Peter Clay - Yes		
Dufners - Yes		
Jerry & Kathy Hansen – Yes		
Debby Hartman-Wrolson – No		

SCBG Program – FY 14 – Beginning Grower Program (Central Lakes College)

Name: _____

(March 19, 2016)

Are you increasing your specialty crop production for 2016? Yes No
 If yes, what is the approximate percentage of increase? _____ percent

- Jerry & Kathy Hansen – Yes (No percentage indicated)
- Maple Run Orchard – Yes – 15%
- Timothy Page – No
- Brett Amundson – Yes – 15%
- Debby Hartman-Wrolson – Yes - ???%
- No name listed – No
- Sharon Johnson – Yes – 75 to 100%
- Mayerlin Challander – No
- Bev O’Connor – Yes – No percent given
- Paul Silkey – Yes – 30%
- Peter Clay – Yes – 20%
- Ron Silkey – Yes – 60%
- Andy Cotter – Yes – 20%

Are you adding new specialty crops in 2016? Yes No

- Jerry & Kathy Hansen – Not sure
- Maple Run Orchard - No
- Timothy Page – No
- Brett Amundson – Yes
- Debby Hartman-Wrolson – Yes
- No name listed – No response
- Sharon Johnson – Yes – Testing currants, Aronia
- Mayerlin Challander – No
- Bev O’Connor – No
- Paul Silkey – No
- Peter Clay – Yes
- Ron Silkey – No
- Andy Cotter – No response

What do you anticipate for 2016 –

- | Acres in production | Increase | Decrease | No change |
|-----------------------|---------------|----------|-----------|
| Jerry & Kathy Hansen | – No change | | |
| Maple Run Orchard | – Increase | | |
| Timothy Page | – No response | | |
| Brett Amundson | – Increase | | |
| Debby Hartman-Wrolson | – No response | | |
| No name listed | – No change | | |
| Sharon Johnson | – Increase | | |
| Mayerlin Challander | – Increase | | |
| Bev O’Connor | – No change | | |
| Paul Silkey | – Increase | | |
| Peter Clay | – Increase | | |

Ron Silkey – Increase
Andy Cotter – Increase

Diversity of product	Increase	Decrease	No change
Jerry & Kathy Hansen ????			
Maple Run Orchard – Increase			
Timothy Page – No response			
Brett Amundson – Increase			
Debby Hartman-Wrolson – Increase			
No name listed – Increase			
Sharon Johnson – No change			
Mayerlin Challander – Increase			
Bev O’Connor – No change			
Paul Silkey – No change			
Peter Clay – Increase			
Ron Silkey – Decrease			
Andy Cotter – No change			

Yield per plant	Increase	Decrease	No change
Jerry & Kathy Hansen - Increase			
Maple Run Orchard - Increase			
Timothy Page – No response			
Brett Amundson – Increase			
Debby Hartman-Wrolson – Increase			
No name listed – Increase			
Sharon Johnson – Increase			
Mayerlin Challander – Increase			
Bev O’Connor – Increase			
Paul Silkey – Increase			
Peter Clay – Increase			
Ron Silkey – Increase			
Andy Cotter – Increase			

Amount of product sold	Increase	Decrease	No change
Jerry & Kathy Hansen - Increase			
Maple Run Orchard - Increase			
Timothy Page – No response			
Brett Amundson – Increase			
Debby Hartman-Wrolson – Increase			
No name listed – Increase			
Sharon Johnson – Increase			
Mayerlin Challander – Increase			
Bev O’Connor – Increase			
Paul Silkey – Increase			
Peter Clay – Increase			
Ron Silkey – Increase			
Andy Cotter – Increase			

Amount of gross income	Increase	Decrease	No change
Jerry & Kathy Hansen - Increase			
Maple Run Orchard – Increase			
Timothy Page – No response			

Brett Amundson – Increase
 Debby Hartman-Wrolson – Increase
 No name listed – Increase
 Sharon Johnson – Increase
 Mayerlin Challander – Increase
 Bev O’Connor – Increase
 Paul Silkey – Increase
 Peter Clay – Increase
 Ron Silkey – Increase
 Andy Cotter – Increase

Amount of net income	Increase	Decrease	No change
Jerry & Kathy Hansen – Increase			
Maple Run Orchard – Increase			
Timothy Page – No response			
Brett Amundson – Increase			
Debby Hartman-Wrolson – Increase			
No name listed – Increase			
Sharon Johnson – Increase			
Mayerlin Challander – Increase			
Bev O’Connor – Increase			
Paul Silkey – Increase			
Peter Clay – Increase			
Ron Silkey – Increase			
Andy Cotter – Increase			

What change in net income would you like to see? _____ percent

Jerry & Kathy Hansen – 15%
 Maple Run Orchard – 25%
 Timothy Page – No response
 Brett Amundson – 15%
 Debby Hartman-Wrolson – Just got started last year – under \$500 in sales so would like to increase to \$5,000.
 No name listed – 10%
 Sharon Johnson – Go from negative to positive.
 Mayerlin Challander – 50%
 Bev O’Connor – Double from 2015.
 Paul Silkey – A positive percent (lost money last year)
 Peter Clay – 10%
 Ron Silkey – 100%
 Andy Cotter – 5%

Do you think that goal is attainable in 2016?	Yes	No
Jerry & Kathy Hansen – Yes		
Maple Run Orchard – Yes		
Timothy Page – No response		
Brett Amundson – Yes		
Debby Hartman-Wrolson – Hopefully		
No name listed – Yes		
Sharon Johnson – Yes		

Brett Amundson – Just started
Debby Hartman-Wrolson – Just getting started with someone with expertise – finding out my soils need help in order to select the right crops.
No name listed – Visiting and meeting all the new growers. Learning more tricks of the trade.
Sharon Johnson – Thaddeus’ visits to the farm.
Mayerlin Challander – Being able to contact teacher at all times.
Bev O’Connor – With the farm visits, I will go over financial analysis & planning.
Paul Silkey – Farm visit & personal advice & knowledge of instructor.
Peter Clay – Farm visits.
Ron Silkey – Field visits.
Andy Cotter – Personal visits & classes & networking.

What would you change about the program? _____

Jerry & Kathy Hansen – No comment
Maple Run Orchard – It would be useful or helpful to receive a 1-page program description with a purpose & goals, and procedure.
Timothy Page – No response.
Brett Amundson – More specific crop focus discussion groups.
Debby Hartman-Wrolson – Too new to the program to know what I would like to change.
No name listed – Nothing.
Sharon Johnson – No response.
Mayerlin Challander – No response.
Bev O’Connor – ??
Paul Silkey – No comments – just a line
Peter Clay – No comments
Ron Silkey – More research.
Andy Cotter – No response.

BENEFICIARIES

Direct beneficiaries were the producers who attended the workshops and conferences who received information directly from experts on a variety of topics and had the opportunity to talk with other growers to learn what did or did not work for them.

Comments from the beginning grower workshop included “The knowledge of the speakers was outstanding;” “Well done class;” “Could add seed starting/transplanting techniques. Excellent day.” and “It was a very informative afternoon.”

Indirect beneficiaries were the customers who were able to establish a stronger connection with local producers and were able to purchase quality fruits and vegetables.

Twenty-three people attended the Beginning Grower Workshop in 2016. Fourteen people from the workshop also attended the 2016 Upper Midwest Regional Fruit & Vegetable Growers Conference. Eight of them attended the 2017 Upper Midwest Regional Fruit & Vegetable Growers Conference. At least four of them have been involved in other workshops and a specialty crops management program through Central Lakes College. It’s too early to estimate the economic impact of the program which will vary by producer. Some of the strategies take time to implement and the results will be seen in future years.

LESSONS LEARNED

Our initial proposal included a workplan that allowed adequate time for planning and promotion of January events. Circumstances beyond our control substantially shortened that timeline. The lesson to be learned is – be flexible and make adjustments to work within the time frame you have.

The specialty crop producers who attend the Upper Midwest Regional Fruit & Vegetable Growers Conference appreciate a good marketing speaker and they appreciated Bob Negen. His keynote talk “The All Important Customer Experience – Where Staff, Service, and Selling Meet” encouraged producers to think like retailers, not growers, when planning their marketing strategy. He also talked about training staff to provide great customer service. Many of the producers went up to thank him after his talk – more of an audience response than he has ever had before.

Our goal was to offer the educational opportunities and present information. It is up to the individual producers to decide what they want to do with that information. In some cases, it’s fully embraced and they move forward with new ideas and approaches. In other cases, it’s a more cautious approach and slower implementation. Sometimes they wait to get more feedback from others before trying something themselves. There are also cases where the producer evaluates new ideas, but ultimately decides that those ideas don’t fit their situation or customer base. It’s up to the individual to decide what does or does not work for them and how far they want to take an idea.

ADDITIONAL INFORMATION

The 2016 annual report showed a remaining balance of \$3,597.16. Those funds were expended for the 2017 conference. \$1,298.89 was used to print the Proceedings Book. The remaining \$2,298.27 was used for out-of-state speaker expenses. Speakers for 2017 included Dr. Bernie Zandstra from Michigan State; Dale Ila Riggs from Stephentown, New York; Frank and Pamela Arnosky from Texas; Marsha Salzwedel from Marshfield, WI; and Dr. Brian Smith from the University of Wisconsin – River Falls.

Project 11

MN Specialty Crop Block Grant – Federal Fiscal Year 15

FINAL PERFORMANCE REPORT

Contact: Mary H. Meyer

Organization: University of Minnesota

Contact information: meyer023@umn.edu

PROJECT TITLE

Promoting Native Grasses as Pollinator Food and Sustainable Landscape Plants

PROJECT SUMMARY

Our goal was to educate consumers and green industry employees on the benefits that native grasses provide to the environment through various methods to increase sales at garden centers. The gardening public and even green industry employees are often unaware of these benefits. Native grasses require minimal inputs such as water or fertilizer once they are established in the landscape. Because they have few, if any pests, no pesticides are needed for growth or maintenance when native grasses are planted in garden and landscape settings. Native grass benefits also include improved soil organic matter due to their extensive fibrous root growth and annual decay; the habitat and food they provide for wildlife including songbirds, turkeys, and pheasants; the soil stability and erosion control from extensive fibrous root systems; and the larval food these grasses provide for more than 75 species of butterflies and moths, many of which are native to Minnesota. Ground nesting bees also prefer bunch grass habitat, much of which has been lost as native prairies have diminished throughout the state.

The demand for sustainable landscaping plants is on the rise. Native grasses are still relatively underused but are perfect to fit the needs of functional yet aesthetically pleasing gardens, including rain or pollinator gardens. Furthermore, the increased interest in pollinator-friendly plants presents another opportunity to increase sales of native grasses. Although relatively unknown by the general public or those in the horticulture industry, native grasses provide larval food and shelter for numerous species of Lepidoptera and Lepidoptera are incidental pollinators. Grasses also are known to provide habitat for bees and other beneficial insects, like ground beetles, that eat pests. Garden center retailers have identified consumer education as the number one way to increase the sales of native plants, other ways included plant tags, other information strategies including brochures. This project addressed the need for more consumer information by providing information about the benefits of native grasses to consumers, increasing their awareness, and thereby increasing native grass sales.

PROJECT APPROACH

Literature Review: The literature review of prairie grasses used as host and food plants for Lepidoptera was completed. The research included a review of the Upper Midwest, (ND, SD, MN, WI, MI, and IL). A manuscript focusing specifically on native Minnesota Lepidoptera and grass associations was published by The Journal of the Lepidopterists' Society expected in December 2017. The article focused on 17 dominant, common, and characteristic native graminoid species of Minnesota native prairie that were used by 36 species of Lepidoptera that occur in Minnesota. The article reviewed the ways in which Lepidoptera oviposit, feed, and build shelters in native grasses and discussed current and needed research.

Publication:

Narem, D. M. and M. H. Meyer. 2017. Native Prairie Graminoid Host Plants of Minnesota and Associated Lepidoptera: A Literature Review. *Journal of the Lepidopterists' Society* 71(4):225-235.

Marketing Display & Materials: An educational marketing poster and plant tags that were developed in 2016 (Appendix Figure 1 & 2) were displayed at four garden centers from May through October 2016, and May through October 2017. In 2017, three were continuing garden centers from the previous year: Prairie Restorations Inc., Princeton, MN, Bachmans on Lyndale, Minneapolis, and Landscape Alternatives in Scandia, MN. Gerten's garden center in Inver Grove Heights agreed to participate and was included in the 2017 project. Outback Nursery in Hastings, MN used the materials in 2016, but did not to continue with the project in 2017 and their marketing poster and labels were given to Heidi's GrowHaus in Medina, MN who displayed it with plant tags from midsummer through the fall in 2017. In total, five garden centers used the marketing materials, and four were involved in measuring native grass sales.

Customer Surveys: A consumer survey was developed with the help of a marketing expert in the Horticulture Department, Dr. Chenguyan Yue (Appendix Figure 3). Customers at the four participating garden centers completed a total of 145 surveys in 2017. These were combined with the 196 customer surveys from 2016, for a total of 341 usable surveys to analyze for consumer purchasing preferences. The survey data has been analyzed, and the results have been compiled into a peer reviewed manuscript that was submitted in June 2018 to HortTechnology and is under review. The results were also summarized into a document and shared with participating garden centers. The results will be presented at the American Society for Horticultural Science annual conference on July 30 – August 3, 2018 in Washington, D.C. Future publication and dissemination of the results will occur after publication of the results in an academic journal.

Publication: Narem, D. M, M. Meyer, C. Yue, and N. Roth. Point of Sale Displays Influence Consumer Decisions to Purchase Native Grasses. (*Submitted to HortTechnology*)

Outreach: Although not an obligation of the original grant, for additional outreach materials, we developed a colorful 11" x 17" poster that shows specific associations of native butterflies and the native grasses on which they feed. This poster promotes 7 native grasses that can be used as ornamentals and lists the native Lepidoptera in corresponding tables that use those grasses for food. One thousand posters were printed on June 22, 2017. This poster was funded in collaboration with the Minnesota Agricultural Experiment Station.

Seven educational presentations were made to Extension Master Gardeners. We presented two webinars on native grasses and the benefits they provide to Lepidoptera for the Extension Master Gardeners on March 22 and November 1, 2017. Approximately 93 people attended the webinars, of which 96% said the information was either very useful or useful, 24% said that they learned a great deal, 39% said quite a bit, and 30% said they learned a reasonable amount. Hour-long sessions on the benefits on native grasses were given at the State Master Gardener Conference on June 23, 2017 and four State Master Gardener Regional Conferences in 2017: August 9th in Crookston, September 4th in Spicer, October 19th in Grand Rapids, and November 4th in Waseca. A total of 201 people attended the four regional conferences and approximately 65 attended the June State Conference. The Master Gardeners were provided with the power point used at the regional conferences to teach classes in their own communities. Further resources were highlighted to the Master Gardeners on the Native Grass website (grasses.cfans.umn.edu). Additional informal presentations on the benefits of native grasses were given at two Arboretum Open Houses at the Minnesota Landscape Arboretum on August 24 and October 1, 2017.

We had a booth at two outdoor festivals, the Pollinator Party on July 27th and the Monarch Festival September 9th. There were an estimate of 2000 attendees to the Pollinator Party and 8,000 to 10,000 at the Monarch Festival. At our booth, we gave out the posters, displayed grass and Lepidoptera specimens, and engaged participants in folding origami butterflies.

The highlights of the literature review were presented as a scientific poster displayed at the American Society for Horticultural Science Conference September 19-22, 2017. The poster was up for four days of the conference with attendance of 900 participants. The results of the marketing study will be presented at the upcoming ASHS conference in Washington D.C. July 30-Aug 3, 2018.

One blog post was written for the University of Extension blog, *Yard & Garden News* in 2016. The cover story of the June 2017 Minnesota Landscape Association's monthly magazine *The Scoop* featured our article on native grasses and their benefits to moths and butterflies. Two press releases were sent to Minnesota media during the growing season of 2017. The first press release was sent to media throughout Minnesota May 24th and focused on awareness of the benefits of native grasses for pollinators (moths and butterflies). The second press release on August 23rd and was posted to the University of Extension blog, *Yard & Garden News*. *The Scoop* story was reproduced in by the Minnesota Golf Course Superintendents' Association in their magazine, *Hole Notes* in the spring of 2018.

Publications:

Roth, N. and M. Meyer. 2016. Supporting Minnesota butterflies with little bluestem, *Schizachyrium scoparium*. *Yard and Garden News*. June 6. < http://blog-yard-garden-news.extension.umn.edu/2016_06_01_archive.html>.

Meyer, M. H. and D. Narem. 2017. *Native Grasses and Associated Lepidoptera*. poster. Minnesota Agricultural Experiment Station, Minnesota Landscape Arboretum, and College of Food, Agricultural and Natural Resources Sciences.
<https://grasses.dl.umn.edu/sites/g/files/pua2711/f/native_grass_poster_2017_final.pdf>.

Narem, D. and M. Meyer. 2017. *Native Grasses as Food for Pollinators*. *Minnesota Nursery and Landscape Association SCOOP*. June 40(6): 30-35.

Sandve, A. 2017. *What to Help Pollinators? Try these annuals and native grasses*. University of Minnesota Extension Press Release. May < <http://news.extension.umn.edu/2017/05/want-to-help-pollinators-try-these.html>>.

Narem, D. 2017. *Add fall color and benefit butterflies by planting native grasses*. *Yard and Garden News*. University of Minnesota Extension. August. < http://blog-yard-garden-news.extension.umn.edu/2017/08/add-fall-color-and-benefit-butterflies_23.html>.

The press release “Add fall color and benefit butterflies by planting native grasses” was also sent to 18 different twin cities suburbs’ community newsletters/news organizations. Out of the 18, Andover and Woodbury responded, but only Woodbury responded saying that they would post the press release info on social media. Andover simply thanked us for the press release.

Four garden centers that partnered with us on this project in 2017: Landscape Alternatives, Prairie Restorations Inc., Bachman’s, and Gerten’s, have all contributed to the project by displaying the native grass display in their garden centers, and providing us with sales data for 2016 and 2017 seasons. Gerten’s only supplied sales data for 2017 and was not participating in the project in 2016.

University of Minnesota Extension cooperated in scheduling native grass benefits presentations at Master Gardener state and regional conferences and allowing us to post press releases on their online communication platforms. Extension Master Gardeners have watched the informational presentations, downloaded materials, and are now resources themselves for their local communities.

GOALS AND OUTCOMES ACHIEVED

Goal #1: Research, compile, and publish a manuscript in the *Journal of the Lepidopterists’ Society* on native grasses and the Lepidoptera was met, see citation above, under Item 1.

Goal #2: To provide posters and tags to participating garden centers, and measure customer's reaction to the display through consumer surveys. In 2016 an informational poster and plant tags were delivered to four garden centers: Prairie Restorations, Inc., Princeton, MN; Landscape Alternatives; Scandia, MN; Out Back Nursery, Hastings, MN; and Bachmans on Lyndale Ave, Minneapolis. Originally we planned to include Prairie Moon Nursery, however their online only presence did not align with this project. Consumer surveys were collected at all garden centers in 2016. A total of 196 surveys were completed. Those surveys were analyzed and the data was presented as preliminary research for the project at the American Society of Horticultural Science.

The following year, Outback Nursery dropped out of the project because they did not want to share their sales data and didn't feel like they were a good fit for the project. Therefore, we added Gerten's Garden Center in Inver Grove Heights, a much larger business. We were able to distribute posters and tags and monitor sales at this garden center and three garden centers that participated the previous year. We did add Heidi's GrowHaus in Medina, MN, giving them for the poster and plant tags, but we did not collect customer surveys at this location. In 2017, we collected a total of 145 surveys for a grand total of 341 surveys.

These surveys were combined with the previous 2016 surveys and the data was analyzed. We found that seeing the display increased the likelihood that a customer would buy a native grass. We also found that if a customer previously purchased a native grass then they were more likely to purchase another native grass that day. Customer attitude towards the benefits of native grasses was correlated with purchasing a native grass. The more positive their attitude towards the benefits of native grasses, the more likely they were to buy a native grass that day. The results have been submitted to HortTechnology for publication.

Sales data was obtained from the participating garden centers (except for Outback Nursery who declined to share sales numbers). There was an increase in the number of grasses sold at all garden centers (see data below).

Goal #3: To write four popular press articles on the benefits of planting native grasses (two each year) and distribute to mass media outlets via the University of Minnesota Extension. To also send this information to a minimum of 10 suburban cities (Plymouth, Edina, Woodbury, Apple Valley, etc.) for publication in their community newsletters.

A magazine article was written and published in the MNLA magazine, SCOOP, and two press releases were written and posted on online extension press platforms. The magazine article was later reproduced by the Minnesota Golf Course Superintendents' Association in their magazine, *Hole Notes*. The press release "Add fall color and benefit butterflies by planting native grasses" was sent to 18 different twin cities suburbs' community newsletters/news organizations via email. Out

of the 18, Andover and Woodbury responded, but only Woodbury responded saying that they would post the press release info on social media. Andover simply thanked me for the press release. We were not able to confirm if the press releases were actually published in the suburban community newsletters.

Goal #4: Fully completed the development of an informational website (grasses.cfans.umn.edu) showcasing the benefits of native grasses. All presentation and webinar dates, publications, and press releases are posted on this website.

Goal #5: Fully completed by holding two online webinars to inform Extension Master Gardeners (EMG) on the subject of native grasses and their associations with native Lepidoptera. We exceeded the goal of holding two face-to-face trainings. We held four trainings, one at each of four Master Gardener Regional meetings. Approximately, 201 EMG's were trained at these meetings. The EMG's were surveyed at 3 out of the 4 meetings (results previously stated).

We fully completed Goals #1 and Goal #2. However, some our expectations were not fully met. We could not gather data from all garden centers, but those that did give us data showed that native grass sales increased at least 20% for all garden centers except for one. Goal #3 was mostly completed. Although, we were able to compile the emails and contact many suburban organizations and newsletters, we only had one confirm that they were going to publish the press release, and they published it only as a social media post. Goal #4 was fully completed. Goal #5 was fully completed and exceeded.

Data to show progress toward achieving set targets:

Goal #2: Sales Data from Garden Centers:

All of the sales data is shown below. The names of the garden centers have been removed so that their sales data remain anonymous.

Garden Center	Type	2015 - 2016		2016 - 2017	
		% Change Units	% Change Sales	% Change Units	% Change Sales
A	retail + wholesale		35%		23%
B	retail	28%*	32%*	57%	31%
C	retail	28%		26%	
D	retail + wholesale				4%

*Sales data only included the grass species in the display, not the whole grass and sedge inventory.

Garden center A (retail store and wholesale sales) showed an increase of 35% from 2015 to 2016 and 23% from 2016 to 2017. Garden Center B showed a 28% increase in units sold (gallons, 4 inch,

and 6 pack containers) and 32% increase in sales for those grasses shown in the display. The next year for Garden Center B, we received sales data from ALL grasses and sedges (not just the ones featured in the display). Those numbers showed a 57% increase in units and a 31% increase in sales from 2016 to 2017. Garden Center C showed an increase of 28% in the overall units of grasses sold (gallons only) from 2015 to 2016, which included two new native species. From 2016 to 2017, Garden Center C showed 26% increase in units sold. Garden Center D was only able to provide us with data from 2016 to 2017 and those numbers showed an increase in grass sales of 4% from 2016 to 2017.

Survey Data from Garden Centers:

A total 145 surveys were completed by customers at the four participating garden centers in 2017. This data has been combined with the 196 customer surveys from 2016, for a total of 341 usable surveys to analyze for consumer purchasing preferences. The results of the marketing survey data showed that seeing the Point of Sale (POS) display increased the likelihood of a grass purchase. The results were inconclusive as to whether the POS display increased consumer knowledge of native grass benefits. The results have been compiled into a peer-reviewed manuscript that has been submitted to HortTechnology.

Goal #4: Analytics from Native Grass Website:

From January 1, 2017 through July 1, 2018, the website has had 3,844 page views, and there have been 605 downloads of various materials from the website. The most downloaded item was the colorful 11" x 17" native grass benefits poster that shows specific associations of native butterflies and the native grasses they feed on (see Outreach above).

Goal #5 Results of Webinar Surveys:

Approximately 93 people attended the webinars, of which 96% said the information was either very useful or useful: 24% said that they learned a great deal, 39% said quite a bit, and 30% said they learned a reasonable amount.

Results of Extension Master Gardener Regional Meeting Surveys:

Participant evaluations revealed 65% of attendees' knowledge increased significantly, 29% increased a moderate amount, and 6% increased a little. After the presentation, 88% of people agreed or strongly agreed that they were more likely to buy a native grass. Ninety-nine percent of participants said they would share the information that they learned in the seminar. Ten percent of those that took the survey (15 people) said they planned on teaching a class or local training on the subject, while 79% (114) said that they may teach a class or that they could not tell at this time.

BENEFICIARIES

The main beneficiaries of this project were the participating garden centers, Bachman's on Lyndale in Minneapolis, Prairie Restoration Inc. in Princeton, Landscape Alternatives, and Gerten's. Other beneficiaries of the project include the Extension Master Gardening program and the Extension Master Gardeners themselves. We provided them with informational materials on the benefits of native grasses. Consumers that shopped at participating garden centers also benefitted from learning the ecological importance of native grasses and any landscape that received a native grass also benefitted from this project.

All garden centers participating in this project reported native grass sales increases (from 4-57%) thus improving their overall gross and hopefully net income. Providing in-store promotional and educational materials increased the sales of native grasses for the stores involved with this project.

Three hundred and forty-one consumers surveyed reported the point of sale information increased their likelihood of purchasing a native grass. Thousands of customers saw the native grass point of sale materials which should have improved their knowledge of the benefits of native grasses.

Publishing this marketing project can advance the use of marketing materials and increase sales at additional stores and garden centers. Publication of the <http://grasses.cfans.umn.edu/> website has enabled at least 3,844 people to see this educational information and over 600 downloads have occurred.

Ninety-three Extension Master Gardeners were trained to teach about the benefits of native grasses and 99% of these participants agreed they would be sharing this information when they taught in the future.

Quantitative data on the effects of the project's accomplishments and the potential economic impact of the project is presented earlier in this section.

LESSONS LEARNED

There were many lessons learned throughout the project about working with garden center partners. The relationship has gone very smoothly with most of our garden centers, but there have been periodic issues. Some of the issues we found were garden centers not being able to provide sales data that we requested, a garden center dropping out of the project because they felt their business model did not fit the project; garden centers personnel being very hard to get a hold of, and employees at garden centers not carrying out some of our requests, such as tagging the native plants consistently. The reality is that although the grant in the end is meant to provide a benefit to the garden center and the public, we are asking things of them as well, and so that means extra work on their end. In order to ensure that the garden centers carried out the tasks we asked of them, it was incumbent on us to express expectations clearly, give timelines, and follow up and offer extra assistance when necessary. But also, at times, we had to acquiesce and let some things go and understand that the garden centers had limited time, and their first most priority was to run a successful business. In the end we were still able to successfully complete the goals of the grant and maintain good relationships with all participating garden centers.

We produced a 11" x 14" color poster on grasses and their Lepidoptera associations in conjunction with the Minnesota Experiment Station that was very well received and has been the most popular item downloaded from the website we created from this grant.

We had difficulty in connecting with suburban community newsletters and did not hear back from many that we reached out to. The lesson learned here is that you have to reach out to these kinds of community newsletters far ahead of time. Sometimes they prepare their issues 3 to 4 months out or only release newsletters during a specific season. It is also good to have a specific contact within each city. This is how we were able to obtain the emails to do the initial reach out. However, our press release timing was a little late in the summer, and this is why we believe few communities used the press release.

ADDITIONAL INFORMATION

Three figures:

Figure 1. Native grass benefits poster used in point of sale displays at garden centers.

Do You Know the Benefits of Native Grasses?

Native grasses...

- Attract wildlife such as songbirds and turkeys.
- Feed more than 75 butterflies and moths.
- Reduce soil erosion.
- Need no pesticides or fertilizer.



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Figure 2. Native grass benefits tags distributed and used at garden centers.



Do You Know the Benefits of Native Grasses?

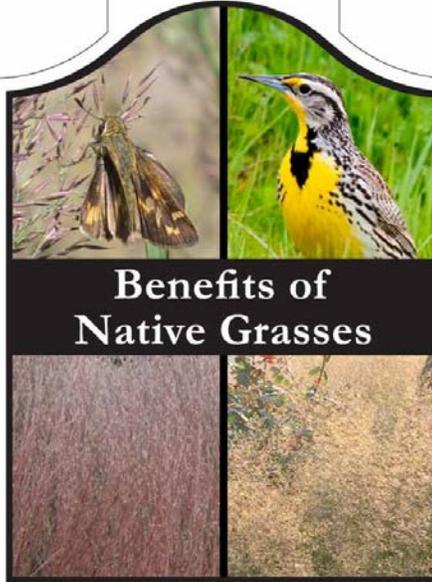
- Attract wildlife such as songbirds and turkeys
- Feed more than 75 butterflies and moths
- Reduce soil erosion
- Need no pesticides or fertilizer

Images: skipper butterfly, western meadowlark, little bluestem, prairie dropseed, bobolink (back of tag)

Photo Credit:

*Western Meadowlark - Photo by Kevin Cole
Little Bluestem, Prairie Dropseed & Skipper Butterfly - Photo by Mary Meyer
Bobolink - Photo by Mike's Birds*

©1988/2011



Benefits of Native Grasses





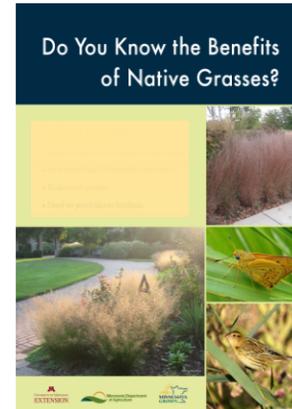
Horticulture Research Survey

1. Do you recall seeing the native grasses display with this sign? →

- Yes
 No → Proceed to question 3.

2. After seeing the native grass display, did you...? (check all that apply)

- Purchase one or more native grasses shown in the display
 If so, was this a planned purchase? Yes No
- Notice the native grasses
 Examine the native grasses
 Consider purchasing a native grass
 Want to purchase but already have similar grasses
 Want to purchase but do not have room to plant native grasses



3.1 Have you ever purchased a native grass before today? Yes No

3.2 Did you purchase a native grass today? Yes No

4. How would you rate your knowledge level on the benefits of native grasses? (Circle one)

Very Unknowledgeable	Somewhat Unknowledgeable	Neutral	Somewhat Knowledgeable	Very Knowledgeable
1	2	3	4	5

5. Are the following statements true or false? (Check one answer for each statement)

Statements	True	False	I Don't Know
Native grasses need a lot of pesticides and fertilizer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Native grasses attract wildlife such as songbirds and turkeys.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Native grasses help reduce soil erosion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Native grasses can feed more than 75 butterflies and moths.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. How much do you agree with the following statements? (Circle one number for each statement)

Statement	Strongly DISAGREE	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Strongly AGREE
If I know native grasses are beneficial for wildlife such as songbirds and turkeys, I would be more willing to purchase a native grass.	1	2	3	4	5	6	7
If I know native grasses are beneficial for butterflies and moths, I would be more willing to purchase a native grass.	1	2	3	4	5	6	7
If I know native grasses help to reduce soil erosion, I would be more willing to purchase a native grass.	1	2	3	4	5	6	7
If I know native grasses need no pesticides or fertilizer, I would be more willing to purchase a native grass.	1	2	3	4	5	6	7
I would NOT be willing to purchase native grasses because they do not have colorful flowers.	1	2	3	4	5	6	7

7. Demographic Information

Yard size: <input type="checkbox"/> No yard <input type="checkbox"/> Yard < 1 acre <input type="checkbox"/> Yard > 1 acre
Age: <input type="checkbox"/> Younger than 20 years old <input type="checkbox"/> 20 to 30 <input type="checkbox"/> 31 to 40 <input type="checkbox"/> 41 to 50 <input type="checkbox"/> 51 to 60 <input type="checkbox"/> Older than 60
Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female

Figure 3. Consumer marketing survey given to customers at garden centers during the 2016 and 2017 gardening seasons.

Project 12

MN Specialty Crop Block Grant – Federal Fiscal Year 15

FINAL PERFORMANCE REPORT

Contact: Randy Guzmann (Grant Coordinator) and Erin Lillienclanz (Bellmont Partners Public Relations)

Organization: Minnesota Farm Winery Association

Contact information: rwgutz@aol.com , erin@bellmontpartners.com

PROJECT TITLE

Minnesota Wine Escapes

PROJECT SUMMARY

The project was designed to extend the inaugural program of Minnesota Wine Escapes (June 2015 – September 2015) – a joint promotion by Minnesota Farm Winery Association (MNFWA), Explore Minnesota Tourism and Minnesota Grown to promote Minnesota wineries as “points of destination” for travel/tourism, community based business meetings and social/recreational gatherings to focus on the message “purchase Minnesota wine, made from the specialty crops Minnesota grapes, fruit and honey.” Moving forward from the inaugural program, all partners recognized the economic potential and benefit of Minnesota wine promotions and tourism.

When we first approached this project, the biggest challenge was to first determine individual winery marketing needs. A large number of wineries have started in the last 5 to 7 years with their time, energy and resources being consumed by operations, with limited resources available for marketing. The smaller number of wineries that have been in existence for more than 10 years are farther along with marketing. There is a willingness on the part of longer established wineries to share information with all wineries – and advocating for unified promotion to guide consumer awareness of Minnesota wineries. Another challenge was creating channels of communication throughout the year for wineries to exchange promotion and marketing information with one another.

The efforts to move the Minnesota wine story to a larger consumer audience has always been a long-established issue because of the labor and capital intensity of the winery business, and even for larger wineries is still in early development stages. It is no secret that Minnesota wineries are spread out throughout the state, which does not allow for many smaller networking and partner marketing efforts between wineries. There have been attempts with wine trail programs, but administration and maintenance of programming still proves to be a challenge for many (if not all) Minnesota wineries.

This 2016 project's funding helped raise the visibility of *all* Minnesota wineries, tell the unique story of each winery – the people, the location/facilities and the wine – and guide the conversation further about the overall growth of the industry, its quality of wine and winery/vineyard tasting room visits. This campaign also provided MNFWA and its partners a better understanding of the current state of the industry and which marketing tools the wineries can benefit from the most – as well as how consumers will respond to those tools.

This project came at a critical time for Minnesota's wine industry, which struggles financially for resources to compete for consumer attention and spending. A common theme we discovered throughout the grant is that the financial resources of Minnesota's wine industry have been, and continue to be committed to the costs associated with facility, equipment and producing fruit sources. This project allowed for Minnesota's wine industry to enlist the professional help (Bellmont Partners Public Relations) needed to promote the growing industry to consumers looking for the experience and products Minnesota wineries offer – as well as provided resources and marketing tools for wineries to promote themselves.

Minnesota wineries continue to heavily rely on the revenue generated from the sale of wine and activities at the winery – leaving little to no funding for marketing efforts. The goal of Minnesota Wine Escapes and the 2016 grant project was to help drive more consumer traffic to Minnesota wineries – directly impacting wine sales and allowing wineries to establish closer relationships with consumers.

The number of Minnesota wineries has grown from an estimated 20 in 2000 to over 70 in 2016 (with an estimated 15 to 20 additional licenses issued by the state to wineries yet to open). The motivation for this project was shown as the first of many steps to grow consumers' interest of Minnesota wine and its sourcing crops

Wineries' research indicates once a consumer/visitor finds the winery, interacts with staff in the tasting room and samples wine they are more likely to become regular customers, visiting the winery again with friends and purchasing favorite wines online. This project was to act as the stepping stone for introducing Minnesota wineries to consumers from across the state – and inviting them to visit the wineries.

This is the first time SCBGP funds have been used on behalf of the Minnesota Farm Winery Association.

PROJECT APPROACH

Minnesota Farm Winery Association (MNFWA; www.mnwine.org) received a specialty crop grant to increase promotion of Minnesota wineries across the state in 2016. The primary objective of the grant was to raise the visibility of all Minnesota wineries, tell the unique story of each winery – the people, the location/facilities and the wine – and guide the conversation further about the overall growth of the industry, its quality of wine and winery/vineyard tasting room visits.

This campaign helped MNFWA and its partners better understand the current state of the industry and which marketing tools the wineries can benefit from the most – as well as how consumers will respond to those tools. From February – October 2016, MNFWA partnered with Belmont Partners to implement the following tactics:

- Survey distribution and analysis
- Key message development
- Resource development
- Website analysis and management
- Media relations campaign with industry monitoring
- Social media and community engagement

Each of the tactics above contributed to the goals outlined in the grant relating to increasing consumer engagement with the Minnesota wine scene (online, in media at wineries), raising awareness of MNFWA membership and exploring the ability to implement a Minnesota wine industry growth report.

PROJECT PARTNERS BACKGROUND AND CONTRIBUTIONS

Randy Gutzmann

Randy Gutzmann has been working with Minnesota wineries since 1995. He has represented Minnesota wineries at the Minnesota Food and Wine Show and now coordinates Savor Minnesota, now in its seventh year, as MNFWA showcases/promotes Minnesota wine and wineries. He has been a long-standing industry representative on the Explore Minnesota Tourism Industry Advisory Council, first appointed by Governor Pawlenty and reappointed by Governor Dayton. His passion and commitment is to the revitalization of economies in Greater Minnesota and believes that the growth of Minnesota's wine industry is a strong example of specialty crops' role.

Randy Gutzmann's contributions to this project include: acting as project administrator, coordinating grant activities with the partner agency and acting as liaison to Minnesota wineries, visiting Minnesota wineries, drafting blog posts to capture the stories from winery visits and conduct regional marketing workshops.

Bellmont Partners Public Relations

Bellmont Partners is an Edina-based communications firm with expertise in strategic communications planning, integrated communications, media relations, event marketing, digital, social media and video production. The agency team has a passion for and experience building both Minnesota's wine industry and tourism, developing and executing the public relations strategy for the 2016 program, previously leading both traditional media outreach and social media engagement

for events such as the Minnesota wine and food showcase Savor Minnesota and Uptown Art Fair, as well as speaker planning, communications, media relations and social media for Minnesota Wine Country at the Minnesota State Fair.

Bellmont Partners' contributions to this project include: conducting a marketing survey of wineries to inform our planning, developing a PR strategy and full communications plan, creating and laying the groundwork for key messages and resource development, drafting and posting educational content on the website (winery profiles, blog updates, events calendar) and on a social media platform (Facebook), implementing media relations outreach and monitoring, and communicating with wineries for additional assets.

GRANT HIGHLIGHTS & RESULTS

The communications efforts focused on the following tactics: key message and resource development for the association, website management and analysis, media relations outreach and monitoring, community engagement through social media and internal communications (with an emphasis on increased coordination with Minnesota wineries and partners). Each tactic was supported by the following communications objectives:

- Increase awareness and sales of Minnesota wine made from Minnesota-grown grapes, fruit and honey, improving the economics for all elements of Minnesota's wine industry, growers, suppliers and wineries.
Build awareness and interest in Minnesota's burgeoning wine industry by encouraging tourists/consumers to visit area wineries and educate audiences about the growing Minnesota wine community, making it more competitive with wine sales in the marketplace.
- Create and implement a traditional and social media campaign to generate promotion of and education about the state's wineries and Minnesota wine.
- Maximize resources by leveraging member winery-owned online and traditional marketing platforms to increase engagement.
- Develop messaging and a marketing toolkit for wineries to help spread the word about the initiative via their own audiences.

Overall Outcomes

- *Marketing grant promotion* – Bellmont Partners and Randy Gutzmann attended and presented at the Cold Climate Conference and at the Explore Minnesota/Minnesota Grown meeting, reaching over 150 – 200 individuals (winery owners, industry leaders, etc.). The presentation highlighted the importance of marketing the Minnesota wine industry (and encouraging winery owners to get involved with the initiative) and the campaign's plan to move forward.
- *Distribution of winery marketing survey and analysis* – Bellmont Partners distributed a communications survey to provide a starting point for the grant. The survey provided the high-level view of the current state of the industry and which tools wineries can benefit from the most. It was distributed via SurveyMonkey to 61 winery owners and individuals associated with the Minnesota wine industry. Twenty-two of the 61 invited wineries participated in the survey for an impressive 36% response rate. The questions focused on gathering winery stories, upcoming events and resources to assist in increasing the visibility

of Minnesota wineries. The communications plan and recommendations were developed based on the information shared in the survey.

- *Savor Minnesota event promotion* – Savor Minnesota, a MNFWA-sponsored consumer event held once a year to promote member Minnesota farm wineries, was the kick-off of the Minnesota wine initiative consumer awareness campaign, delivering nearly 20 media placements (TV, radio, print and online outlets) to promote the quality and variety of Minnesota wine made from Minnesota grapes, fruit and honey, which was showcased at the annual Savor Minnesota wine tasting event. In addition, the number of vendors increased from 40 in 2015 to 50 in 2016, including four additional Minnesota wineries (18 total). The event promotion included a partnership with KS95 to manage the social media page. No grant funds were used towards KS95's participation with the event.

Key Message Development

- *Benefits of MNFWA membership* – Based on conversations at the MNFWA meetings and the survey results, Belmont Partners created a membership information one-sheet to highlight the benefits of joining MNFWA along with communicating the membership key messages. The benefits include networking opportunities with winery owners, event presence for Minnesota wine, website features and additional marketing promotion. The one-page flyer was distributed in a state-wide winery mailing, encouraging others to grow the winery networking opportunities.
- *Media key messages* – To complement the media outreach efforts, spokespeople (winery owners and wine industry experts) were provided with the key messages to share the growth of the Minnesota wine industry as well as showcase the qualities of Minnesota wine. The key messages were showcased on the website and in social media posts to further the conversation around the industry's growth.

Resource Development

- *MNFWA one-page flyer* – We developed a flyer highlighting the list of MNFWA members (as of October 2016) and providing an overview of the benefits of MNFWA membership. The one-page flyer was distributed to all Minnesota wineries to boost membership.
- *Assets* – We gathered materials from member wineries that enhanced consumer-facing information on the MNFWA website (photos, winery contact information and updates to winery profiles).
- *Branding* – Belmont Partners implemented a uniform look on all of the association's promotional materials (website, social media graphics, media relations materials, etc.).
- *Communications toolkit* – Belmont Partners created a communications toolkit to assist member wineries with marketing communication needs on the winery websites, social media best practices and posting guidelines, photo-sharing tips and influencer outreach recommendations. Randy Gutzmann distributed the toolkit at the regional winery meetings.
- *E-Newsletter* – Belmont Partners developed an e-newsletter and email marketing template that was used to communicate with all MNFWA members and all Minnesota wineries (as applicable). The e-newsletter and emails have allowed for wineries to collaborate with the project through providing media relations content and overall promotion of the Minnesota wine scene and MNFWA happenings.

Website Analysis and Management

To provide a central source of information for consumers interested in the Minnesota wine industry, Belmont Partners updated the MNFWA website (mnwine.org) and managed web content throughout the campaign. The website proved to be a valuable resource for consumers, wineries and media. Belmont Partners conducted a full website audit, reviewed Google Analytics and made recommendations for general website updates. The website audit focused on adding, updating and refreshing the website content to improve consumer engagement and increase the ease of use and readability. Updates to the site content also included Minnesota wine-related resources and assets, such as images, blog posts and additional promotional materials, which was all repurposed on the website. Website management included updates to the following:

- Member winery profiles
- Blog updates
- Events calendar
- Adding Facebook sharing buttons

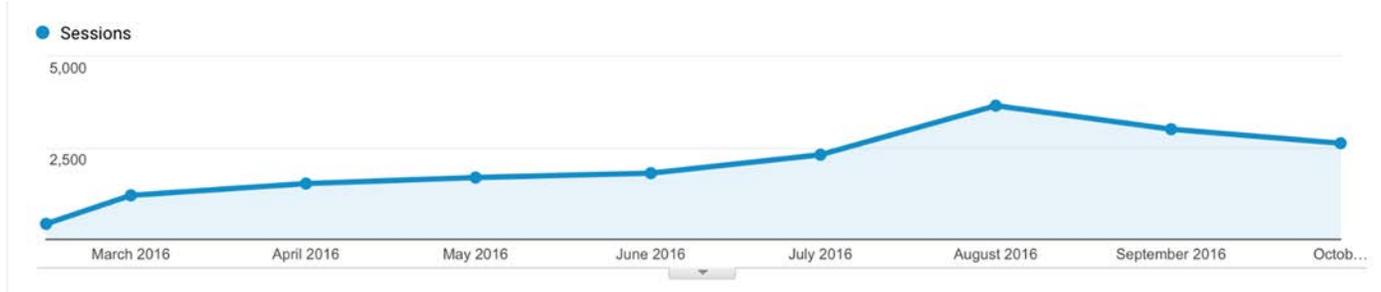
Below is a brief overview of the website's growth and additional campaign results:

- From February to October 2016, the website secured over 18,000 visits – averaging 2,028 visits per month (a 78% increase in sessions, which translates to over 4,200+ more website visits from 2015). Also, the website secured 42,400+ pageviews throughout the course of the campaign – an increase of 77% (an additional 9,700+ pageviews) over 2015 analytics.

Specific website traffic analytics include:

- Bounce rate: 59%
 - Pages/Session: 2.27
 - Average session: 1:36
 - New visitors: 81.4%
 - Returning visitors: 18.6%
- After the campaign, the top pages that website visitors are looking at include (1) the list of Minnesota wineries, (2) Minnesota wine trails, (3) blog posts, (4) events calendar and (5) the overview of cold-climate grapes.

2016 mnwine.org website visits



2016 mnwine.org pageviews



Minnesota Winery Listings and Member Winery Profiles

- Bellmont Partners distributed a submission form for the member wineries to provide specific information related to their winery, including a brief introduction to the winery for consumers, hours, tasting and tour details. This information was repurposed into MNFWA member winery profiles, which also included links to the winery's social media channels.
- This website update involved updating the member winery list as well as implementing uniform copy edits for equal winery promotion on the website. The member winery list can be seen at mnwine.org/wineries. Click on the individual winery names to access the profiles.

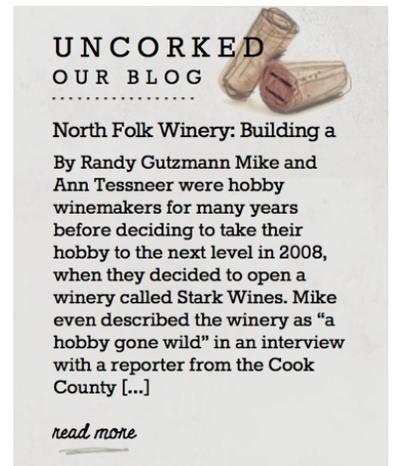


Blog Updates

Bellmont Partners developed a #WineWednesday blog series, and edited, coordinated and loaded weekly blog posts starting in July 2016. The blog posts highlighted travel experiences and recommendations for visiting Minnesota wineries across the state. Randy Gutzmann visited the wineries and wrote blog posts about his visits. Bellmont Partners then reviewed and edited the blog posts, focusing on the industry key messages and keeping in mind the interests of target audiences. Each blog post was published and promoted on the Facebook page to drive traffic back to the website (as well as grow consumer engagement on both the website and social media).

The blog posts include:

- [Aspelund Winery – Aspelund Winery: An Intimate Tasting Room Offering Great Wines](#)
- [Vinmark Estates – Frontenac Gris: A Cold-Climate Grape that Makes a White Wine with a Light, Tropical Flavor and Hints of Green Apple](#)
- [Indian Island Winery – Growing Grapes with the Gentleman Farmer at Indian Island Winery](#)
- [Winehaven Winery – The Buzz About Mead at Winehaven](#)
- [Schram Vineyards Winery and Brewery – Schram Vineyards Winery and Brewery: Where Minnesota Wine and Beer Unite](#)
- [Glacial Ridge Winery – Going Hollywood at Glacial Ridge Winery](#)
- [Painted Prairie Vineyard – Painted Prairie Vineyard: Southern Minnesota Comfort](#)
- [Morgan Creek Vineyards – Paula’s Passion: Morgan Creek Vineyards](#)
- [Round Lake Vineyards and Winery – Round Lake Vineyards and Winery: A Southern Minnesota Oasis](#)
- [Buffalo Rock Winery – Buffalo Rock Winery: The Story of the Owner, Winemaker and \(Most Importantly\) Mother of Two](#)
- [Richwood Winery – Penny Aguirre: Richwood Winery Owner and U.S. Agent \(of Patents\)](#)
- [Grape Mill Vineyard and Winery – The Prairie, Northwoods and Good Wine Meet at Grape Mill Vineyard and Winery](#)
- [Carlos Creek Winery – Carlos Creek: Serious Fun and Serious about Local Wine](#)
- [Northern Vineyards Winery – Northern Vineyards Winery: A Favorite Winery in a Favorite Town](#)
- [Garvin Heights Vineyards – Garvin Heights Vineyards: Beautiful Bluffs, Growing Grape Vines and Flavorful Wines](#)
- [North Folk Winery – North Folk Winery: Building a Winery One Timber at a Time](#)



Each blog post encouraged consumers to visit Minnesota wineries and promoted consumer engagement on the website and Facebook page, which resulted in the wineries and wine-related organizations sharing the blog posts with their own networks.

Events Calendar

- Belmont Partners updated the website event calendar by installing a website plug-in to sync MNFWA’s Facebook events with the website event calendar. This plug-in streamlined the entry of events on multiple digital channels. Once a Facebook event is added to the MNFWA page, it automatically syncs with the website calendar – filling in the details for the venue location, description, photo(s) and more.
- Also, Belmont Partners regularly monitored member winery Facebook pages for events to add to the calendar



to promote additional reasons to visit Minnesota wineries.

Media Relations Campaign, Coverage and Industry Monitoring

- Bellmont Partners' media campaigns to promote the Minnesota wine scene garnered high-profile attention for the state's winemaking industry, member wineries and their wines. Bellmont Partners pitched stories to local media (as well as national media through inbound media inquiries) based on content received from member wineries (i.e. National Mead Day, upcoming festivals and events, news around the wineries, etc.). The top subjects that media covered over the last year include:
 - Unique food and wine pairings
 - Larger wine-related events (Savor Minnesota and Minnesota wine at the Minnesota State Fair)
 - New cold-climate grape developments and Minnesota grape growing
 - Winery tourism
 - Winery profiles and unique stories
 - Winery events (grape stomps, harvest festivals)
 - Minnesota wine thought leadership (local wine lists, winemaking process, etc.)
- The Savor Minnesota media relations campaign generated more than 255,000 impressions, with coverage appearing on FOX 9, WCCO-TV, KSTP-TV, Mpls.St.Paul Magazine, Echo Press, Pioneer Press and City Pages.
- Minnesota Uncorked, a local wine blog, approached the program with a national media opportunity, which will bring attention to Minnesota's fall wines and crops. Bellmont Partners created a media kit for a national wine writer and critic to sample a variety of Minnesota wines and to write about the quality, affordability and versatility of Minnesota grown and produced wine.
- The media relations campaign and industry media monitoring efforts secured **more than 120 mentions on TV**, radio, newspaper and online stories and **more than 22.3 million impressions** secured from February to October 2016. Multiple stories ran in the Star Tribune, Pioneer Press, City Pages, all four major metro TV stations and two radio stations, all designed to educate statewide audiences about trying multiple local wines close to home. A complete list of media placements is available at the end of this report.

Social Media and Community Engagement

- Bellmont Partners implemented a social media campaign, focusing heavily on Minnesota Farm Winery Association's Facebook presence (@MinnesotaWine). The campaign and postings focused on the following:
 - Build awareness of MNFWA and the Minnesota wine industry
 - Encourage consumers to visit wineries and spread the word about their local Minnesota wine experiences
 - Update followers with events and other happenings from wineries across the state
 - Highlight the quality of Minnesota wine through consumer reviews and local media insights
 - Relate the growing Minnesota wine scene with consumer interests (cooking, health and wellness, tourism and more)

- This campaign included drafting and posting 1-4 Facebook posts per week and monitoring member winery Facebook pages (along with industry influencers and media) for news and updates to share on the MNFWA page. The 82 Facebook posts made throughout the duration of the project (as of Nov. 3) reached more than 31,000 people. The posts also included Facebook events from member wineries, in order to promote the wide span of events happening across the state, including grape stomps, fall harvests, tastings and more – driving consumers to visit wineries and tasting rooms.
- The campaign also increased awareness of the Minnesota wine industry’s online presence (within the association’s members and with key influencers). Belmont Partners renamed the Facebook page (originally “Minnesota Wine – Mnwine.org”) to “Minnesota Wine – Minnesota Farm Winery Association” and linked the Facebook page with the website. Also, the conversations around Minnesota wine were unified under a hashtag (#mnwine), which key influencers and wineries are now starting to implement. Consumers and other website visitors can monitor the conversations through the website. See the hashtag coverage here and the website hashtag promotion below: <http://www.twinesocial.com/mnwine>

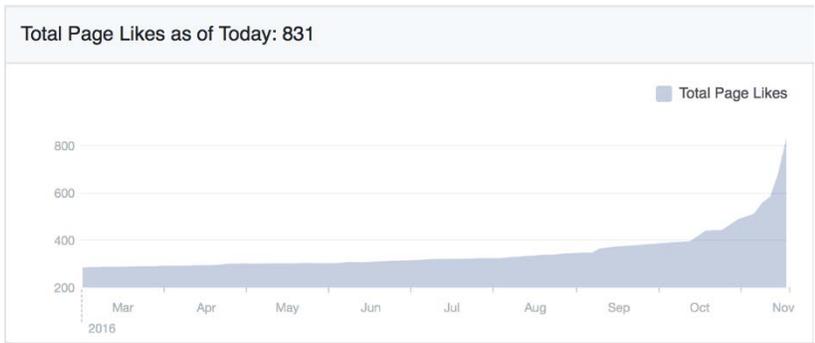


- The social media campaign also included a partnership with KS95 on the Savor Minnesota Facebook page. The Facebook results for Savor Minnesota:
 - Total Page Views: 737 (+349)
 - Total Reach: 17,255 (+423%)
 - Total Engagement: 3,203 (+937%)
 - Page Likes: (+30%)
 - Actions on Page: 41 (+925%)
 - Video Views: 319 (+100%)

Facebook Advertising Campaigns

The Facebook advertising campaigns focused on increasing MNFWA’s page likes and engagement with the website (mnwine.org).

- *Facebook likes* – Sponsored Facebook posts related to increasing page likes were implemented from Thursdays – Sundays throughout October, when the target audience was considering weekend getaways and wine-related content. The Facebook advertising for page likes resulted in 320 likes and 11,432 people reached. Overall, the Minnesota Wine – Minnesota Farm Winery Association Facebook page has secured a total of 831 likes – a 342% increase over 2015. See one of the example posts here and below: <https://www.facebook.com/266980493416543/posts/1093425907438660>



Facebook likes (as of Nov. 3, 2016)

Minnesota Wine - Minnesota Farm Winery Association
 Written by Erin Lillienkrantz [?] · October 24 at 2:51 pm · 🌐

Grape stomps, harvests & more happening this fall! Like us to experience the Minnesota wine scene.

Minnesota Wine - Minnesota Farm Winery Association
 Wine/Spirits
 831 people like this. ✓ Liked

10,535 people reached

Minnesota Wine - Minnesota Farm Winery Association
 Written by Erin Lillienkrantz [?] · October 12 at 2:44 pm · 🌐

Visit our website to learn more about the 60+ wineries across Minnesota, including travel tips, fall winery events, recipes, food pairings and more!

Discover the Minnesota wine scene
 MNWINE.ORG Learn More

23,027 people reached

3.9K Views

Like Comment Share

Jane Hendrickson, Jennie Gerber Johnson and 65 others · Chronological

58 shares · 2 Comments

Kyle HotRod Helvig Amy Helvig
 Unlike · Reply · Message · 1 · October 23 at 7:48am

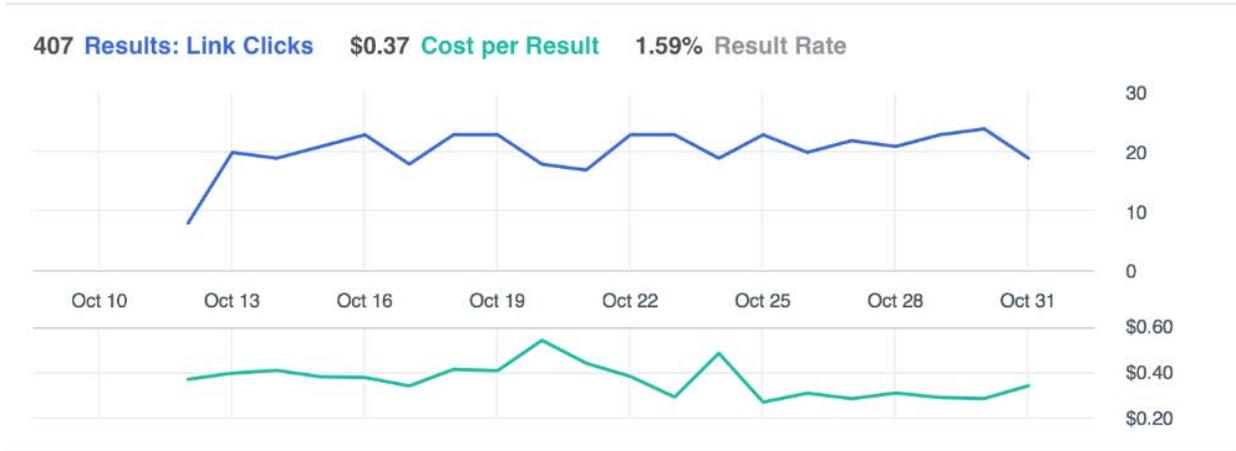
Barbara Ponthan Larson Lisa Karpowicz we need to visit a few
 Unlike · Reply · Message · 1 · October 25 at 6:24pm

Lisa Karpowicz Yes we do mom!
 Unlike · Reply · Message · 1 · October 25 at 6:38pm

Write a comment...
 Press Enter to post.

- **Website link clicks** – A sponsored post promoting the MNFWA website ran throughout the month of October to encourage fans of Minnesota wine to visit the website and learn more about happenings around the Minnesota wine scene. The website ad reached 23,027 people (3,367 organic reach, 19,660 paid reach), received 550 post clicks, 67 likes, 2 comments and 58 shares. See website post here and to the right:

<https://www.facebook.com/266980493416543/posts/1081588138622437>



Website ad performance (above) and demographics (below)



Communication and Coordination with Member Wineries and Partners

- An e-newsletter (via Vertical Response) was developed to streamline communications between the association and its members. The e-newsletter and additional email marketing tools provided industry updates, provided a means to make and collect requests for content for the website and social media, and informed wineries on media inquiries and promotional opportunities.
- Randy Gutzmann led multiple regional marketing workshops around Minnesota to bring attention and guide the conversation around marketing with the local winery owners.

Minnesota Winery Visits

Randy Gutzmann has visited 40 wineries across the state to further the conversation around Minnesota wine industry challenges, successes and to offer insights into MNFWA’s marketing resources. At this year’s Minnesota Grape Growers Association (MGGA) Cold Climate Conference, a winery owner remarked that all the marketing ideas presented were great, but he would have to find a couple more hours in a 24-hour day to implement them. The purpose of the winery visits was to:

- Assist in this time management challenge and listen to ongoing marketing priorities for the upcoming years.
- Reach as many wineries as possible and visit with winery owners and staff on-site.

- Gather the unique story of each winery and retell the story to a larger consumer audience through Minnesota Farm Winery Association website and social media.
- Provide an opportunity for winery owners and staff to identify what they would like from MNFWA to assist them in their marketing efforts.
- Encourage wineries to join the association and continue to grow the network of Minnesota wineries working together towards addressing the challenges that they face.

The winery visits included:

Indian Island Winery
 Sovereign Estate Winery
 Schram Vineyards Winery & Brewery
 Flower Valley Vineyards
 Falconer Vineyards Winery & Bistro
 Post Town Winery
 Glacial Ridge Winery
 North Folk Winery
 Two Rivers Winery
 Aspelund Winery
 River View Winery
 Painted Prairie
 Morgan Creek Vineyard
 Winehaven Winery and Vineyard
 Willow Tree Winery
 Round Lake Winery
 Hinterland Vineyards Vineyard & Winery
 Buffalo Rock Winery
 Richwood Winery
 Grape Mill Winery
 Carlos Creek Winery
 Salem Glen
 Four Daughters
 Next Chapter
 Northern Hollow Winery
 Lake Pepin Winery
 Saint Croix Vineyards
 Northern Vineyards
 James Perry Vineyards
 North Ridge Winery
 Grandview Valley Winery
 Heaven's Gate Winery
 Woodland Hill Winery
 Garvin Heights Vineyards
 Chateau St. Croix
 Wild Mountain Winery
 Forestedge Winery

Vinmark Estates
Javens Family Vineyards & Winery

GOALS AND OUTCOMES ACHIEVED

Goal: Increase consumer engagement with the Minnesota Farm Winery Association (MNFWA) website (www.mnwine.org) and Facebook.

Performance Measure: Compare the average number of website visits and Facebook page engagement before and after the campaign.

Benchmark:

Website: The current number of average web site visits per month as provided by Google Analytics reported February 2015 to October 2015 at 1,601 visits per month.

Facebook: At the start of the social media campaign, the Facebook page had 283 page likes.

Target: Increase average website visits per month by 50% and Facebook engagement by 50%.

Data Sources: Google Analytics and social media analytics

Impact of Data: The information would allow first a reasonable measure of current consumer engagement with the website and Facebook page – and compare that engagement with the proposed consumer promotions, directing consumers to the website to better engage with wineries, plan visits to the wineries and purchase wine at the tasting room or online.

Goal: Increase media placement/feature stories about the quality, versatility and affordability of Minnesota sourced and produced wine.

Performance Measure: Monitor media coverage (TV, radio, print and online) about Minnesota wineries and wine – focusing on the quality of Minnesota wine and the industry.

Target: 100 media pickups

Data Sources: Critical Mention monitoring service, Google Alerts, social media mentions through keyword search.

Impact of data: Media clips/report gathered will improve ability to create content of consumer interest and reach larger audiences with media stories.

Goal: Increase the number of Minnesota wineries participating in the Minnesota Farm Winery Association (MNFWA) by promoting the importance of “consumer outreach” available through membership in the Association.

Performance Measure: The number of dues paying Minnesota wineries participating in the Minnesota Farm Winery Association. Wineries who pay membership for MNFWA are recorded and published online at mnwine.org/wineries.

2015 Benchmark: 19 wineries participating with membership in MNFWA as the 2014 - 2015 fiscal year.

Grant Target: Increase the number to 40 MN wineries participating/current with membership in MNFWA.

Impact of goal: By increasing the number of Minnesota wineries that actively participate in MNFWA, the organization would grow its ability to promote the visibility of Minnesota wineries as

“points of destination” for regional, state and state-to-state tourism/travel; promote Minnesota wineries as locations for local business to business events; promote the quality, variety and affordability of Minnesota wine.

Goal: Create a “sample set” (10 wineries) of Minnesota wineries willing to share sales data for the year 2016 of a common set of wines with a goal establishing a “baseline measure of MN wine sales” and exploring the ability of creating what could be an annual report of the sales of Minnesota produced/sourced wine, information that does not currently exist. (There is some sales information as reported/gathered for the Northern Grapes Project but that information is dated and does not include sales information specific to the sales of Minnesota wine produced from non-grape sources.)

Performance Measure: 2016 wine sales information as provided by participating wineries.

Benchmark: 2015 sales information as provided by participating wineries.

Target: Maintain 2015 sales levels

Was this target reached?

No, this target was not reached and was purposely not a top goal for the grant project. 39 wineries, located around the state were visited May through August. We stayed in touch with these wineries and others, providing them with marketing information and strategies. However, these Minnesota wineries were not willing to share specific sales information. Anecdotally, the response in general was that most wineries held or improved “market share” during the grant period, which was agreed by most wineries to be acceptable, given the fact that it is estimated another 5 to 10 wineries have “come on line” in the last 14-plus months, meaning they have opened a tasting room and are selling wine at retail. It is estimated there are at least another 5 more wineries with tasting rooms/retail sales that will open in the next 12 to 14 months. There are at least 75 Farm Winery licensees that have been issued, more than doubling the number of wineries that existed 10 years ago. Maintaining market share continues to be goal of wineries in this time of winery growth.

The key, measurable outcomes from the Minnesota wine marketing efforts this year include:

- More than 120 media mentions and more than 23 million impressions highlighting the quality of Minnesota wine and the happenings of the Minnesota wine industry – clips include print, radio, television and online. We exceeded the goal, delivering 20% more than the grant goal of 100 media clips.
- More than a 78% increase in website traffic to the MNFWA website through organic and paid social media posts and promoting blog posts. We also exceeded this grant goal, delivering 28% more than the grant goal of 50%. Specific website traffic analytics include:
 - Bounce rate: 59%
 - Pages/Session: 2.27
 - Average session: 1:36
 - New visitors: 81.4%

- Returning visitors: 18.6%
- A 342% increase of engagement on the MNFWA Facebook page (www.facebook.com/MinnesotaWine) by focusing on creating consumer-facing content, sharing industry news and promoting visits to wineries. Again, we exceeded this grant goal, delivering 292% more than the benchmark of 50%.
- The number of winery members has increased from 19 prior to launching the program in (June 1, 2014 – May 31, 2015 membership period) to 24 members (June 1, 2015 – May 31, 2016). The number for the 2016 – 2017 fiscal year is already at 19 members (and counting!), with additional wineries expected to join or who have expressed previous interest in the association. This increase is based on multiple factors: promotion and involvement with Minnesota wine industry events, distribution of the MNFWA one-page information flyer and survey, word of mouth, MNFWA representative visits to wineries, etc.

BENEFICIARIES

The beneficiaries (groups and other operations) of the project are:

✓ Minnesota Farm Wineries

Farm wineries are given a special status in Minnesota’s liquor laws, a policy chosen specifically to encourage and support the fledgling farm winery industry. State efforts also nurture grape growing and winemaking via financial and technical assistance, applied research and outreach, and tourism promotion.

By Minnesota law a Farm Winery is Wines produced at Minnesota farms are subject to the Minnesota Farm Wineries Act. This statute allows a winery to manufacture wine in Minnesota and subjects wineries to Minnesota’s liquor regulations, with a number of specific exceptions and allowances designed to protect and foster the growth of Minnesota wines.

Farm winery licenses are issued by the commissioner of the Department of Public Safety for \$50 per year. A license authorizes the on-premises sale of table, sparkling, or fortified wines. Amounts are limited to 50,000 gallons in a calendar year.

In 2012, the legislature specified that farm wineries must be located on agricultural land or have a conditional use permit. Farm wineries in existence before May 1, 2012, are exempt from this requirement. This change was to ensure that farm wineries were on farm lands.

As a matter of definition, the law allows more than wine from grapes to be produced at a farm winery. A table or sparkling wine is defined as a beverage made without rectification or fortification—the additions of distilled liquors to make a fortified wine. The definition in Minnesota include cider, vermouth, wine, and wine made from crops other than grapes. In addition, the law specifically allows the production of fortified wines. Therefore, as a practical matter, the farm winery law allows farm wineries to make a wide variety of beverages.

✓ Minnesota Growers

Gowers in Minnesota of grapes, fruit and honey produced for the making of Minnesota table, sparkling, or fortified wines, cider and vermouth as produced and sold for retail by Minnesota Farm Wineries.

✓ Minnesota Farm Winery Association

Minnesota Farm Winery Association is a membership organization of Minnesota Farm Wineries established to increase the marketing of Minnesota wine produced by those wineries that fall into the guidelines of the Minnesota Farm Winery law.

Provide a quantification of the beneficiaries affected by the implementation of this project and/or a potential economic impact of the project.

All Minnesota wineries benefited from the PR placements valued at \$537,420 and \$1,856 for online placements, a list of these placements, in their entirety, has been included in previous reports. These placements and their value was tracked by Critical Mention, an independent tracking agency. The PR campaign was very deliberate in promoting Minnesota wine as a “category” and always focused on encouraging consumers to visit and purchase wine from the winery tasting room which creates the highest profit margin on each bottle sold, as compared to wine purchased at retail outlets sold by the winery at a reduced price. Secondly, the Minnesota Farm Winery Association benefited by increasing their membership from 14 wineries in 2015 to the current number of members 27 wineries.

The MNFWA members truly benefitted the most since they we supplied with many resources and ideas for them to implement. It is important to note that the grant was really driving promotion and tourism to wineries, specifically MNFWA members who were included in media outreach.

✓ Minnesota Grape and Fruit Growers

A last beneficiary would be the increasing number of Minnesota grape and fruit growers who are continuing to plant additional specialty crops to sell to Minnesota/Midwest wineries. Their contributions to local economies is growing as they purchase locally for goods and their growth will depend on continuing to increase the sale and demand for Minnesota made wine.

LESSONS LEARNED

Positive

- Consumer interest in Minnesota wine and Minnesota wineries is growing, as seen in growing engagement of MNFWA social media programing. The challenge was gathering information

from wineries (getting them to respond to requests for information, events, photos, etc.) and other channels throughout the year to share on consumer channels. Results indicate that there is growing consumer interest and desire to purchase Minnesota grown and made wine, from Minnesota wineries. More than 23 million people were potentially reached through media outreach, social media and digital efforts – and received the industry key messages multiple times with grant-funded programming.

- Consumer participation in Savor MN 2016 increased by 150 attendees.
- MNFWA grant representatives had the opportunity to participate and present in both a general session and small session at the Minnesota Grape Growers Association Cold Climate Conference in February. As a result, 2015/2016 MNFWA membership grew from 14 to 22 member wineries. Current 2016/17 memberships at 19 wineries, with additional wineries expected to join.
- The grant-related activities generated additional participation at MNFWA meetings in 2016. All four 2016 meetings were well attended by member wineries with the November meeting including a first-time option for members to participate via conference call.
- Minnesota wineries and commercial grape and fruit growers report plans for additional planting creating additional economic activity for local suppliers. (self reported)
- Now, we know there is consumer interest for the Minnesota wine industry. The next step will be to better define an identity for the Minnesota wine scene as a locally sourced and Minnesota-made product – while accounting for winery visitor experience, defining the market’s price as compared to quality of the wine, and more. The identity will aim to pair key messages with best channels of delivering information to consumers – specifically targeting key audiences by demographics and interests.

Lessons Learned (Negative)

- In general, there is a need for multiple sets of marketing models, one for those wineries open and in business for at least 10 plus years, making and selling wine in the tasting room/wholesale and who can host events at the winery as an additional revenue source versus those wineries who have opened in the last 5 to 10 years. The challenge becomes tailoring marketing information that will be of use for the variety of wineries now open for business.
- There was a frost in the early part of the growing season which required additional management, securing other sources of fruit, changing production plans, etc. An issue like this always takes time/planning away from the winery’s time/planning for marketing, again particularly with smaller/newer wineries.
- New wine making sanitation/handling guidelines were put into place in 2016 for Minnesota wineries and the inspection responsibility shifted from the Minnesota Department of Alcohol and Gaming to the Minnesota Department of Agriculture. Some of the smaller, newer wineries are struggling with the costs that will be associated with coming into compliance with these new standards.
- The labor intensity of the Minnesota wine industry continues to be an issue for winery owners and staff to dedicate additional time to “compare notes” about marketing formally in a meeting setting or informally on a winery to winery basis. There is a willingness to share information, but it really becomes a matter of time management.

- There really isn't enough funding available now for a comprehensive program to market Minnesota wineries and Minnesota wine to the extent it could be. There are efforts in place to create a larger pool of marketing funds, but may still be a few years away.

ADDITIONAL INFORMATION

RECOMMENDATIONS:

MNFWA-Specific Recommendations

- Implement a consumer-focused educational program to increase engagement in the Minnesota wine industry. The educational program could be designed as a promotion of member winemakers or local sommeliers – increasing the education of Minnesota wine, building awareness of winery collaboration and driving sales directly to the tasting rooms. This recommendation also provides the opportunity to partner with a local wine education company to promote the quality of Minnesota wines by introducing Minnesota wine-focused classes. A few companies that already introduce wine to consumers in Minnesota include:
 - Twin Cities Wine Education (<http://twincitieswine.com>)
 - International Wine & Spirits Guild (<http://www.internationalwineguild.com/minnesota-wine-school>)
 - Meritage Wine School (<http://www.meritage-stpaul.com/wineschool/>)
 - Minnesota Wine School (<http://www.minnesotawineschool.com>)
- Increase visibility of MNFWA as a consumer-facing association. Many national wine websites make note of MGGG as the sole Minnesota wine-focused organization. This recommendation requires reaching out to national website contacts to request adding MNFWA to the lists. Here are a few to consider:
 - Local Wine Events (www.localwineevents.com)
 - Wines & Vines (www.winesandvines.com)
 - Wine-Road.com
- Redevelop/re-energize awareness of wine trails. Partner with the local wine trail tour companies to develop the program and build awareness of the trails. Here are a few to consider:
 - Renee's Limousines: <http://www.reneeslimousines.com/wine-tours>
 - Minnesota Wine Tours (with day and seasonal tours, "vine and dine" tours and more): http://www.minnesotawinetours.com/minnesota_vineyardnews.html
 - Minnesota Wine Country tours: <http://minnesotawinecountrytours.com/winery/>

- Encourage all MNFWA members to post MNFWA logo and link on their websites.
- Implement multiple social media channels, especially Instagram, to reach millennials.
- Advocate for a larger presence of Minnesota wineries to participate in media opportunities. For example, we recently discovered that the Minneapolis St. Paul Business Journal did not continue its annual list and coverage of Minnesota wineries and the local wine industry due to the lack of responses to the survey.
- Continue to leverage the faces of the Minnesota wine industry to act as spokespeople with media, attend food & beverage events and more.
- Encourage wineries to submit blog content and news to MNFWA for inclusion on the website, in social media, etc.
- Equip winery owners with communications toolkit and resources for conducting media outreach on their own.
- Educate winery owners about media relations and social media best practices to help maintain and improve their web presence and publicity.
- We recommend updating the MNFWA website with current wine trails throughout the state and highlight any MNFWA members featured on the trails.
- Gather and grow the “Recipes” page on the website and add wine and food pairings. A Google Analytics report shows that website visitors have a strong interest in cooking.
- Continue weekly blog posts on winery and consumer-focused angles. Partner with MN Uncorked and other wine bloggers, writers and influencers to continue creating fresh wine-related content.
- Implement email marketing to leverage the consumer list provided by Explore Minnesota and KS95. Also, to keep members up-to-date in the latest developments of the association, continue the winery-focused e-newsletter via Vertical Response.
- Develop and execute a Minnesota wine branded campaign with tagline, encouraging all wineries to share with their networks, leverage on social media, etc.
- Implement a restaurant outreach and education program to encourage more local restaurants to include Minnesota wine on their menus.

Minnesota Winery-Specific Recommendations

- Promote and host educational, consumer-focused events at wineries.
- Network with local community media to share local winery news.

- Research additional places to list Minnesota wineries and showcase the wine itself (wine apps, tourism websites, etc.).
- Share winery events on various channels to increase exposure. A few places include:
 - Media event calendars
 - Online event calendars
 - Facebook events
 - Local Wine Events (<http://www.localwineevents.com>)
 - Explore Minnesota Tourism

[Project 13](#)

MN Specialty Crop Block Grant – Federal Fiscal Year 15

[FINAL PERFORMANCE REPORT](#)

Contact: Sue Knott

Organization: Minnesota Agriculture in the Classroom

Contact information: sue.knott@state.mn.us

PROJECT TITLE

Growing Awareness of Minnesota Specialty Crops

PROJECT SUMMARY

Minnesota produces many specialty crops but we felt youth awareness and consumption of specialty crop fruits and vegetables was insufficient. According to the 2013 Minnesota Student Survey, 68% of fifth graders responded that they ate fruit less than two times per day and 78% said they ate vegetables less than two times per day. While providing access to fruits and vegetables is an essential component of increasing consumption, we recognized that education about these crops is an important tool that was underutilized in schools.

In order to increase student consumption of specialty crop fruits and vegetables, increasing their demand both at school and home, youth of all ages need a greater understanding of how these crops grow, who is involved, and the significance of the crops culturally, nutritionally, and economically. Because schools have limited class time each day, teachers need resources that embed specialty crop education into the K-12 classroom, using Minnesota’s fruit and vegetable production as a tool for learning core academic standards. To make the most of new educational

resources, teachers also need professional development that will grow their awareness of specialty crops and build their comfort with new resources.

The objectives of this project were to:

1. Promote the awareness and consumption of Minnesota grown specialty crops through the development of a specialty crop lesson booklet and a specialty crop student AgMag.
2. Increase the demand for locally produced specialty crops by educating students about the farm to table process with engaging on-farm videos.
3. Increase new market access for specialty crops by organizing farm to school themed on-farm teacher tours.

When we applied for this grant in 2015, the Minnesota Agriculture in the Classroom (MAITC) program was celebrating its 30th year of serving K-12 students and educators in Minnesota. We felt it was an ideal time to increase education about Minnesota's specialty crop fruit and vegetables in K-12 classrooms. MAITC had established and continues to develop a strong network of K-12 teachers in Minnesota, but at that time we did not have sufficient resources to educate students about specialty crops. This project provided a unique opportunity to leverage MAITC's 30 year track record and robust teacher connections to train teachers and teach students about Minnesota specialty crops. The underlying theme of these actions continues to be to increase awareness and consumption of locally produced specialty crops in youth, parents, school staff, and school food service. By increasing awareness and consumption of Minnesota grown specialty crops in schools, we also wanted to increase access to new markets for specialty crop producers as food service demands more specialty crops for school meal programs.

PROJECT APPROACH

This project involved three aspects. Each aspect is listed below with the activities performed and significant results.

1. Promote the awareness and consumption of Minnesota grown specialty crops through the development of a specialty crop lesson booklet and a specialty crop student AgMag.

Lesson Booklet

- a. Teams of middle school and high school teachers developed the lessons and Minnesota Ag in the Classroom staff offered suggestions for improvement and checked that specialty crops were the dominant subject matter.
- b. All ten lessons were piloted by teachers in K-12 classrooms. These pilot teachers were not the lesson writers. The pilot teachers offered feedback about how the lesson was written and applied in the classroom. This feedback was used to finalize the lessons and create a final draft.
- c. Solberg Creative added graphics, design and layout to develop the final product of the lesson booklet.

- d. The final product is available as a printed booklet and is also available at <https://minnesota.agclassroom.org/educator/sclb.cfm>

AgMag

- e. Our MAITC team and the Solberg Creative team brainstormed content areas and work began on development of text, graphics and layout.
 - f. The draft was reviewed by teachers and feedback was taken into consideration to develop the final product. 40,000 were printed and orders began to be received in early 2018. 1796 AgMags were sent to schools, by request during the 2017-18 school year. We have orders from 55 schools already for the 2018-19 school year. We are in the midst of developing a social media campaign to promote this resource to teachers for use in their third grade classrooms and curricula.
2. Increase the demand for locally produced specialty crops by educating students about the farm to table process with engaging on-farm videos
- a. We worked with Andy Berndt and his team at Community Blueprint to identify Minnesota grown specialty crops, historically underrepresented producers, and students to feature in videos. The team shot video at on-farm production sites, processing facilities and consumer locations.
 - b. Four videos are available on our website at <https://minnesota.agclassroom.org/educator/video.cfm> . These four videos have received over 3,900 views to date.
3. Increase new market access for specialty crops by organizing farm to school themed on-farm teacher tours.
- a. We successfully hosted a specialty crop themed teacher tour on August 8th and 9th, 2016. Thirty-two teachers toured production, processing, and distribution sites for specialty crops. We also educated these teachers about the Farm to School program in Minnesota and gained knowledge from teachers and food service directors with experience in this program.
 - b. We successfully hosted a specialty crop themed teacher tour on July 17th and 18th, 2017. Twenty-five teachers toured a flower production and distribution facility, urban school nutrition center, vegetable farms and food distribution center. Data collected through a pre and post tour survey will be shared later in this report.

The teacher tours were a success because of a wide variety of strategic partners. Clearly the tour site hosts were integral to having a high quality, educational experience focused on specialty crops. The Wozupi Tribal Gardens, Pahls' Market, Russ Davis Wholesale, Pollinate Minnesota, Bare Honey, Urban Roots and Hopkins Public Schools (2016) as well as Len Busch Roses, Untiedt's Vegetable Farm, Minneapolis Public Schools, Big River Farms, Wingard Farms and The Food Group (2017) were

fantastic partners in welcoming us to their sites, providing a guided tour and information. We worked closely with the Minnesota Grown organization to identify potential sites. We also were able to partner with the Schoolyard Garden Coalition and Minnesota Grown program in promoting these tours to educators.

The farm-to-table videos created a fantastic partnership with Community Blueprint by brainstorming specialty crops and growers to focus on as well as potential sites for video footage and student narrators. The farms and groups featured in the videos, including Hmong American Farmers Association, Wozupi tribal Gardens, Sean Sherman – the Sioux Chef, The Beez Kneez and Minneapolis Public schools were also new partnerships that were explored and developed through this project.

Throughout the stages of the lesson booklet and AgMag projects, our selected contractors (Waconia Independent School District and Solberg Creative) have been very important contributing partners. We also partnered with an extensive team of teachers and educators to offer feedback on these curricular tools.

GOALS AND OUTCOMES ACHIEVED

The objectives of this project were to:

1. Promote the awareness and consumption of Minnesota grown specialty crops through the development of a specialty crop lesson booklet and a specialty crop student AgMag.
2. Increase the demand for locally produced specialty crops by educating students about the farm to table process with engaging on-farm videos.
3. Increase new market access for specialty crops by organizing farm to school themed on-farm teacher tours.

The activities listed in these objectives were all completed. We have produced a Specialty Corp AgMag targeted for third grade students. It is available free to any educator or students that requests it. We have had over 3000 magazines requested in just the past five months. The lesson booklet is available to educators as a printed booklet and also online on our website mn.agclassroom.org. The videos, which we have termed “Follow Your Food videos” are available on our YouTube Channel and also in our video library on mn.agclassroom.org. Finally, we completed the farm-to-school themed teacher tours and have added these teachers to our network of educators that are working to integrate agriculture into all curricular areas.

Measurable Outcome #1

Goal: *Promote the awareness and consumption of Minnesota grown specialty crops through the development of a specialty crop lesson booklet and a specialty crop student AgMag.*

Performance Measure: *MAITC will track the teacher responses to an online survey about the effectiveness of the specialty crop lesson booklet and/or specialty crop student AgMag to promote the awareness and consumption of locally grown specialty crops by their students.*

The lesson booklet just recently became available for educators to request and use for the upcoming school year so we do not have any responses to our online survey.

However, the Specialty Crop AgMag was available for educators to order early in 2018. We have collected a small number of responses to our survey. We are will continue to collect data but we are encouraged by the responses to date:

The survey shared with teachers who have used the Specialty crop AgMag included the following questions:

1. The Specialty Crop AgMag helped my students gain a better understanding of what specialty crops are. 40% of responders strongly agreed, 60% agreed
2. The Specialty Crop AgMag helped my students be able to describe how specialty crops are grown and who grows them. 46% of responders strongly agreed, 46% agreed, 8% were not sure
3. I believe that my students' consumption of specialty crops (specifically fruits and vegetables) increased after using the Specialty Crop AgMag. 8% or responders strongly agreed, 66% agreed and 25% were not sure.
4. After using the Specialty Crop AgMag, I am inspired to integrate more food and agriculture activities in my curriculum. 23% of responders strongly agreed, 77% agreed.

Measurable Outcome #2

Goal: Increase new market access for specialty crops by organizing farm to school themed on-farm teacher tours. These tours will serve as opportunities for personal and professional development that allow teachers to increase their knowledge of specialty crops.

Performance Measure: MAITC will track the scores of teacher participants on a pre- and post- test that measures their specialty crop knowledge and likeliness to include education about specialty crops in their classroom.

We were able to collect data and information from the participants in teacher tours. We were very excited to see growth in the knowledge of these teachers and their likelihood to incorporate specialty crops in their curriculum. Here are a few examples:

- Before the tour 13% of the teacher tour participants said they were "Very Knowledgeable" about specialty crops. After the tour 55% identified themselves as "Very Knowledgeable".
- Before the tour 40% of the teacher tour participants said they were "Very Likely" to promote eating specialty crops grown and harvested in Minnesota to their students during the 2016-17 school year. 45% said they were "Somewhat Likely" and 15 % said they were "Not Likely" to promote eating specialty crops. After the

tour, 86% of the teachers said they were “Very Likely” to promote eating Minnesota’s specialty crops, 14% were “Somewhat Likely” and 0% were “Not Likely”.

- When asked to answer the question “What did you find most beneficial or educational about the Summer Teacher Tour?” We received many positive comments. Two examples:
 - “I thought the tour aspect was most important – actually getting to see the locations and meet the people was important in increasing understanding but also enthusiasm.”
 - “I got some field trip ideas/lessons I can use in my life science curriculum this year!”

Our work plan and timeline addressed three objectives. These objectives are listed below, with their proposed activities in **bold** and actual accomplishments are described in *italics*.

Objective 1: Promote the awareness and consumption of Minnesota grown specialty crops through the development of a specialty crop lesson booklet and a specialty crop student AgMag.

Part I: Develop a specialty crop lesson booklet that includes a collection of at least 10 hands-on lessons linked to the Minnesota K-12 Academic Standards.

Activities:

- **Identify contractor through an RFP process. (April 2016)**
Waconia Independent School District was selected as the contractor for this project
- **Survey existing specialty crop educational resources from other organizations across the country. (November 2016)**
The teacher teams and agricultural consultants reviewed lessons and resources. They modified existing curricular pieces and developed new lessons.
- **Synthesize information into a booklet of at least 10 lessons. (January 2017)**
Work began on this in early 2017 and continued through June 2018.
- **Connect all lessons to the Minnesota K-12 Academic Standards in the areas of science, social studies, math, language arts, and health/nutrition. Ensure that at least 3 of the lessons fit within the Frameworks for the Minnesota Science and Mathematics Standards. (March 2018)**
The contractor listed specific Minnesota K-12 Academic Standards that are addressed in each lesson within the lesson template. The Frameworks for Minnesota Science and Mathematics are addressed in 5 of the lessons.
- **Review all lessons to ensure they are focused solely on specialty crops as defined by the U. S. Department of Agriculture. (August)**

MAITC staff members reviewed the lessons in July and August of 2017 to ensure they all focused solely on specialty crops.

- **Facilitate a review of the booklet by licensed teachers. These teachers must represent elementary education (K-5), middle school education (5-8) and high school education (9-12). Use the feedback and recommendations by these reviewers to strengthen the information and lessons. (June 2017)**

Licensed teachers reviewed the lesson and piloted the lessons in their classrooms. This process was completed in March 2018.

- **Facilitate an editor to review the content of the specialty crop booklet and correct any errors in writing mechanics and information presentation. (June 2017)**

This occurred in April-May 2018.

- **Finalize the layout and design of the booklet. Design will be similar to the 2013 Minnesota School Garden Guide and marketed as a supplement to the guide to build off of the publication's success. To date, MAITC has distributed by request over 2,500 Minnesota Garden Guides in addition to hundreds of pdf downloads from the website. (September 2017)**

This occurred in May – June 2018

- **Print and publish booklet.(December 2017)**
- *Printed in July 2018.*

Part II: Develop a specialty crop AgMag publication that increases the understanding and awareness of specialty crops while teaching core curriculum concepts.

Activities:

- **Identify contractor. (November 2016)**

Solberg Creative was selected as the contractor for the AgMag

- **Conduct preliminary planning to discuss content and visual concepts. (December 2016)**

Planning meeting was conducted with ideas and concepts brainstormed.

- **Develop concept and content. (March 2017)**

This process took quite a bit longer than anticipated but content was developed with input from a variety of Specialty Crop growers and educators.

- **Review all content and design concepts to ensure they are focused solely on specialty crops as defined by the U. S. Department of Agriculture. The**

content and concepts will highlight Minnesota grown specialty crops and promote their consumption by students and their families. (April 2017)

This was completed.

- **Design Development. Collaboration between contractor and MAITC staff on visual layout and content. (April -June 2017)**

This process took quite a bit longer than anticipated. Work began in June of 2017 and wrapped up in November of 2017.

- **Implementation and Production. Design and content are finalized and print-ready files are shared by the contractor with MAITC (July 2017)**

The print ready files were shared with the printer in December of 2017.

- **Online Development. Content will be added to the MAITC website in an interactive and searchable format, similar to the existing AgMag publications. (August 2017)**

Online content was made available in January of 2018.

- **Printing and Distribution. Magazine-type publication is printed and promoted via the MAITC website, social media, professional development workshops, conferences and mailings. (September 2017)**

This began in January 2018 and will continue through the 2018-19 school year.

Objective 2: Increase the demand for locally produced specialty crops by educating students about the farm to table process with engaging on-farm videos.

Activities:

- **Finalize video learning objectives connected to Minnesota Academic Standards. (April 2016)**

Representatives of Community Blueprint and MAITC developed a list of potential academic standards and used these for guidance as video footage was collected and scripts were written.

- **Identify Minnesota grown specialty crops, historically underrepresented producers, and students to feature. (April 2016)**

The following were determined as video features:

- *Carrots from Open Hands Organic Farm to Minneapolis Public Schools Nutrition center and Elementary School*
- *Pollinators, honey and the Beez Kneez delivery system*
- *A variety of specialty crops grown at the Wozupi Tribal Gardens and their connections to Native American history and culture*

- *A variety of specialty crops grown by Hmong Farmers that are members of the Hmong American Farmers Assn and their marketing and distribution at Minnesota Farmers Markets.*

- **Film four 5-10 minute videos highlighting only specialty crop farmers and the farm to table process. (November 2016)**

Filming is complete as well as editing and final review.

- **Create a one page guide for each video to assist teachers with curriculum integration. (December 2016)**

These are complete.

- **Share videos via social media, on MAITC website, at trainings and conferences, in classrooms. (January 2017)**

The videos were shared extensively on our website, social media and at trainings and conferences and continued to be shared whenever the opportunity exists!

Objective 3: Increase new market access for specialty crops by organizing farm to school themed on-farm teacher tours.

Activities:

- **Identify first year tour sites which will focus solely on specialty crops, develop itinerary, and finalize logistics. (March 2016)**

Sites were determined. They were: Wozupi Tribal Gardens, Pahl's Market Garden Center, Russ Davis Wholesale Processing, Pollinate Minnesota, Bare Honey, Urban Roots, Hopkins Public schools Student Nutrition Services and Eisenhower Elementary School Garden.

- **Promote tour to teachers. (June 2016)**

This tour was extremely popular with registration filling-up in just a few weeks. A waiting list was established.

- **Lead teacher tour of specialty crop farms and aggregation/distribution facilities. Include time to discuss lessons and curriculum integration. (August 2016)**

Tour was completed with fantastic weather and positive comments from participants!

- **Identify second year tour sites, develop itinerary, and finalize logistics. (March 2017)**

Sites were determine. They were Len Busch Roses, Untiedt's Vegetable Farm, Minneapolis Public Schools Nutrition and Wellness Center, Big River Farms, Wingard Potato Farm and The Food Group.

- **Promote tour to teachers. (June 2017)**

Once again this was a very popular tour with 25 teachers anxious to attend.

- **Lead teacher tour of specialty crop farms and aggregation/distribution facilities. Include time to discuss specialty crop lesson booklet, specialty crop AgMag, and other curriculum integration resources. (August 2017)**

Tour was complete with very positive feedback from attendees.

Baseline Data- progress toward achieving set targets:

Measurable Outcome #1

- **Goal:** *Promote the awareness and consumption of Minnesota grown specialty crops through the development of a specialty crop lesson booklet and a specialty crop student AgMag.*
- **Target:** *75% of teachers responding to the survey about either publication will identify that the resource helped their students gain a better understanding of specialty crops. At least 50% of the teachers responding to the survey will identify that their students consumption of specialty crops will increase as a result of utilizing the resources.*

The goal is to distribute at least 10,000 copies of the new AgMag to a minimum of 200 classroom teachers in the first year of distribution. Additional print copies, and the web version, will be available in the years following the grant. It is also our goal to distributed 350 of the lesson booklets to teachers in the first year of distribution. Additional print copies will be available in the years following the grant. Digital copies of the lessons will also be available on the MAITC webpage.

Due to the fact that our initial timelines were very ambitions, we do not have as much data collected from teacher surveys as we initially thought we would have at this point. The lesson booklet has not been used by any teachers, but we did have a small group of teachers who have used the Specialty crop AgMag respond to the questions below.

1. The Specialty Crop AgMag helped my students gain a better understanding of what specialty crops are. 40% of responders strongly agreed, 60% agreed
2. The Specialty Crop AgMag helped my students be able to describe how specialty crops are grown and who grows them. 46% of responders strongly agreed, 46% agreed, 8% were not sure
3. I believe that my students' consumption of specialty crops (specifically fruits and vegetables) increased after using the Specialty Crop AgMag. 8% or responders strongly agreed, 66% agreed and 25% were not sure.
4. After using the Specialty Crop AgMag, I am inspired to integrate more food and *agriculture activities in my curriculum. **23% of responders strongly agreed, 77% agreed.***

At this point we are hoping to achieve the 10,000 copies of the AgMag to a minimum of 200 schools during the 2018-19 school year. Both the Specialty Crop AgMag and Lesson booklet are available digitally on our website <https://minnesota.agclassroom.org/index.cfm>

Measurable Outcome #2

- **Goal:** Increase new market access for specialty crops by organizing farm to school themed on-farm teacher tours. These tours will serve as opportunities for personal and professional development that allow teachers to increase their knowledge of specialty crops.
- **Target:** MAITC will organize two teacher tours attended by at least 60 teachers. Teachers who participate will have at least a 20% percent increase in their scores from pre- to post- test.

Throughout this report, data is shared that shows a definite increase in teacher's response on the pre-tour and post-tour surveys. The growth far exceeds the 20% growth that was our target.

BENEFICIARIES

Educators: The most immediately impactful part of this grant project was the farm to school themed teacher tours. We received fantastic, positive feedback from teachers about the knowledge and awareness that was gained by visiting farms, processing centers, school nutrition facilities and a wealth of other related people and places. The tour evaluations and pre and post-test surveys showed obvious growth in information and excitement about specialty crops.

We are looking forward to gathering additional feedback to inform teachers and educators about the impactfulness of the Specialty Crop AgMag and also the Specialty Crop lesson booklet. We hope to hear that these curricular pieces are an excellent addition to curricula in science, social studies, language arts and health and nutrition.

Students: Ultimately, it is the students that we targeted to increase awareness and consumption of specialty crops. We know that when teachers are excited about a topic it is contagious to their students. We believe that the positive feedback and enthusiasm from the teachers we have interacted with is translating into student interest, awareness and willingness to taste and consume specialty crops.

Specialty Crop Growers: Increased awareness and visibility for the specialty crop growers was at the heart of every one of the project activities. Teachers got to meet these farmers face-to-face on the teacher tours. Four different farms and their farms are featured in the Follow Your Food videos. Specialty crop farmer profiles are at the core of the Specialty Crop AgMag and many of the lessons in the lesson booklet address the impact that specialty crop farmers have. We believe that all of these touchpoints will not only grow awareness for these farmers and the important work they do, but also increase the consumption of the food they produce.

The goal of the teacher tours was to increase new market access for specialty crops by organizing farm to school themed on-farm teacher tours. We were hoping that these tours could serve as an

opportunity for personal and professional development that allow the teachers to increase their knowledge of specialty crops. After completing the two tours we have gather positive feedback and growth from the participants. Here are three examples of change in the teachers’ knowledge illustrated in our pre and post tour surveys.

Question 1. How Knowledgeable are you about specialty crops?

	Very Knowledgeable	Somewhat Knowledgeable	Not Knowledgeable
Before the Tours	8%	52%	40%
After the Tours	46%	54%	0%

Question 2. How knowledgeable are you about how to integrate specialty crops into your curriculum?

	Very Knowledgeable	Somewhat Knowledgeable	Not Knowledgeable
Before the Tours	15%	48%	37%
After the Tours	61%	39%	0%

Question 3. How likely are you to incorporate specialty crops into your curriculum during the upcoming school year?

	<i>Very Likely</i>	<i>Somewhat Likely</i>	<i>Not Likely</i>
<i>Before the Tours</i>	22%	36%	42%
<i>After the Tours</i>	67%	33%	0%

The two summer teacher tours were attended by a total of 62 teachers. If we estimate that each teacher interacts with 25 students in their class each year that means that over 1,550 students are annually receiving increased opportunities for nutrition and specialty crop education and awareness.

Specialty Crop AgMag

The survey results from a small group of teachers who used the Specialty Crop AgMag have been shared previously in this report. We will continue to collect data from teachers who use this resource as well as the lesson booklet. At this point, 8,098 Specialty Crop AgMag magazines have been requested by teachers across Minnesota. The magazines have been shipped to these teachers where they are used by students for learning connections in science, social studies and health/nutrition.

Cream of the Crop Lesson Booklet

Since the launch of this booklet, we have received positive feedback from educators on the resources available in this booklet as well as the eye-catching design! So far, 361 educators have requested and received a hard copy of this booklet. If we estimate that each educator is using the resources with their class of approximately 25 students, we can approximate that 9,025 students are participating in specialty crop themed activities in their classrooms. Additionally, the lesson plans and resources from this book are available on our website at <https://minnesota.agclassroom.org/educator/sclb.cfm> Since the webpage launched on August 8th, the page has been viewed 665 times. Each visit has averaged about 3 minutes. We will continue to promote this resource to teachers across the state and also continue to collect information and feedback from these educators on how the lessons impact their teaching and their students.

LESSONS LEARNED

The curricular pieces (AgMag and lesson booklet) caused us to experience some challenges and decisions about sticking to our timeline or focusing on a quality product.

Lesson Booklet

- The first challenge occurred with the contractor. The identified project leader with our contractor at Waconia Public Schools resigned from his position and left the school district. This created a challenge to identify a new project leader to carry out the project. After several conversations and meetings, middle school teacher Michele Melius assumed this role. She was a fantastic project leader with outstanding experience in the classroom and with their school garden and specialty crop production. However, she was limited in her time and availability during the school day and school year. We shifted the bulk of the lesson development to the summer months and worked with her teaching colleagues to pilot the lessons in the fall and winter of 2018.
- Michele was adamant in having individual teachers review **and** pilot each lesson with students. This process took longer than our original timeline but we felt the feedback was invaluable to providing a very usable and high quality resource.

AgMag

- The development of content for this project took much longer than expected. We received a wealth of input from individuals and groups involved in producing specialty crops and education. It was very difficult to prioritize this input and also create an age appropriate magazine. We have gone through MANY revisions and have finally reached an AgMag magazine focused on specialty crops that meets the standards we established in our grant proposal. This process took much longer than anticipated but we felt it was necessary to get the high-quality product we want to provide to educators across Minnesota.

The most important outcome that we experienced was understanding the impact of having teacher pilot lessons activities with students in a classroom setting. The feedback gained from this process was invaluable to producing a produce that we are exceptionally proud of. We included this in the initial timeline but we did not anticipate the willingness of teachers to really “dig-in” and really analyze the impact that the learning activities have on their students. This is a step that we will ALWAYS include in future projects and allow ample time to accommodate teachers and students busy schedules.

Another unexpected impact was the change in schedule that allowed us to not fully utilize the assistance of a student worker. In the initial budget plan for this project, we had allocated quite a bit of time for a student worker to assist with projects involved in his grant proposal. However, with the shifting timeline and also the shifting schedule of our student workers we were not able to fully use this time. The MAITC staff took on a majority of the grant activities.

We realized that the timelines established in our proposal were very ambitious and did not allow for the time needed to review and refine the curricular tools to ensure the high-quality end product that we wanted. For future projects, we would suggest taking into account the busy schedules of educators and students and allow a greater amount of time for trying out learning activities and reflecting on the impacts. The information collected during this process is vital to creating a product that teachers and students will want to use.

ADDITIONAL INFORMATION

Follow Your Food Videos: https://minnesota.agclassroom.org/educator/video_follow.cfm

Specialty Crop AgMag: <https://www.mnagmag.org/specialty-crops/>

Specialty Crop Lesson Booklet: <https://minnesota.agclassroom.org/educator/sclb.cfm>

Summer Teacher Tour Photos:



Project 14

MN Specialty Crop Block Grant – Federal Fiscal Year 15 FINAL PERFORMANCE REPORT

Contact: Brian Erickson

Organization: MDA Marketing and Development Division

Contact information: brian.j.erickson@state.mn.us

PROJECT TITLE

Expanding Market Exploration with Minnesota’s Specialty Crop Producer Associations and Wholesalers

PROJECT SUMMARY

The purpose of this project was to address the need for market diversification for specialty crop producers, with specific focus on the need for expanded promotion to wholesale markets. This was accomplished by assisting specialty crop-eligible entities exhibit at targeted national trade events including the National Restaurant Association show, the Beverage Alcohol for Restaurants show, and the Sweets and Snacks Expo, in May, 2016.

This is essentially a “pull strategy” for specialty crops. For many makers of “processed” or value-added specialty crops such as grape growers with farm wineries and apple growers with hard cideries, and other food companies who add value to specialty crops, their market segments have rapidly increased in size over the past decade in Minnesota. Following that, the numbers of makers of those specialty crop products have increased, which has created a marketing challenge/competitive local market for those products and producers. Traditional markets, such as direct to consumer and local marketing channels, remain strong for these products; but as these businesses mature, there is an increasing business interest for exploring new markets with emphasis on identifying new wholesale market channels. Producers of more commodity-like specialty crops, such as potatoes and apples, have the benefit of more established market structures, but demand for unique varieties and new forms of value-added products made from eligible specialty crops can be explored and created by promoting these value-added retail and food service products at trade events. Trade events provide a place for these segments to expand their market exposure.

Previously, other producer organizations, such as dry bean and potato groups, have sporadically attended trade shows under a Minnesota Pavilion banner. Although beneficial, the high costs of regional and national wholesale food events is a barrier to their participation, which has limited their market exploration work. This project is timely in the sense that it helps these producer organizations and individual makers of those products made from specialty crops (food companies who add value to spec. crop products), to start and/or continue their market development and

exploration, which is critical to the continued success of their businesses and the specialty crop segments from which their ingredients originate.

PROJECT APPROACH

1. Tradeshow space was secured by the MDA for specialty crop block grant-eligible entities at three wholesale trade events.
2. Recruiting: Specialty crop-eligible entities and industry associations were recruited to fill specialty crop block grant-supported booth space using MDA's normal event recruitment tools.
3. Six specialty crop-eligible entities signed-up to participate.
4. MDA staff planned pavilions at each trade event.
5. MDA Staff traveled to each event to administer/execute the events, and support the participants.
6. MDA staff surveyed participants to evaluate event impacts in terms of business contacts made, sales, new distributorships, etc.

The MDA was the sole project partner.

GOALS AND OUTCOMES ACHIEVED

Tradeshow space was secured by the MDA for specialty crop block grant-eligible entities at three wholesale trade events, including: 2016 National Restaurant Association/American Food Fair Pavilion, BAR 16 @ NRA, and the 2016 Sweets and Snacks Expo. All three events are offered by separate tradeshow organizations, and each function separately, but they all take place annually in McCormick Place in Chicago, IL over the span of six days in May. (note: on approval by the MDA's grant administrator, the latter event was added in place of the Americas Food and Beverage (AFB) Show, because interest in participation at AFB proved minimal.) Companies and industry associations were recruited to fill specialty crop block grant-supported booth space using MDA's normal recruitment tools, including phone canvassing by staff, the New Markets Program e-mailed newsletters, by information provided at food industry events we attended, and by other means. Specialty crop-subsidized space was made available first-come, first-served, as is customary for all participants at Minnesota Pavilion events.

Specialty crop-eligible entities who signed-up to participate included:

NRA/American Food Fair Pavilion: Red River Valley Potatoes (Northern Plains Potato Growers Association),

BAR 16 @ NRA: Four Daughter's Winery/Loon Juice Cider, Lionheart Cider, Rusty Anchor Bloody Mary Mix,

Sweets and Snacks Expo 2016: Nots! Brand sustenance Snacks and Beefree Honee (RAES Foods, Inc.). Collectively, those entities represented specialty crop “market-pull” for potatoes, apples (3), tomatoes, and confectionary sunflower segments.

MDA staff planned individual pavilions at each event by working with event sponsors and the facilities, onsite service providers, and others. With the Minnesota Department of Agriculture, those entities planned their tradeshow booths, including multitude of details involved in event planning event-specific amenities like electrical, booth furnishings, flooring, etc. State pavilions (Minnesota) that included these entities were managed by the MDA onsite. Both Alatheia Stenvik (Ag Marketing Specialist), and Brian Erickson (Ag Marketing Spec. Sr.) traveled to Chicago and were onsite to help these entities with event logistics and execution.

We assumed a baseline of zero for participants at these events, because each event is a “new” opportunity to “increase demand” and specialty crop product “pull”. The first Expected Measurable Outcome listed was “an average increase of 5% in “predicted” direct product sales, during the grant period, for participating entities. In hindsight, this outcome was not well conceived. We should have exclusively used a more quantifiable short-term outcomes, such as “New Contacts” and “New Distributor Relationships”, to measure project success. Those would have been more realistic measurable project outcomes. As described in #8 below, national trade events like the ones we participated-in are *more about relationship and brand-building than short-term sales*. Comments provided by participants (see below) validate this adjustment to our approach; they include lots of comments about benefits of participation beyond new sales.

We acknowledge that the outcome expressed in our accepted state plan, predicting a 5% growth in sales from baseline, was not well-conceived. During the course of the grant period, we learned that there is no way to accurately measure a sales increase outcome for a 1 year project, using the metric of sales results from trade events that are largely long-term relationship-building events (hence the measured result of “0” in “onsite sales”, but a predicted sales result of \$75,000 after 9 months. If a follow up survey of participants is desired, to validate the second sales prediction of \$75,000 in aggregate (as reported by the participating companies), we would be happy to pursue that and report further results.

Nonetheless, we did measure staff performance, event satisfaction, and other less-quantifiable aspects of these SCBG-supported events by survey, as promised. We achieved 100% survey participation. We measured new sales contacts and new distributor relationships established, and we measured *projected* sales, immediately following the event and 9 months post-events.

Here are the combined results of the participant surveys:

Combined data from Event Evaluations:

Question	Totals
First Time Exhibiting?	4 yes, 2 no
Rate Pre show coordination 1-5	4.5 average score
Rate Booth/Pavilion location	4.5 average score
Rate Assistance during show	4.8
Rate booth price	5
Rate overall satisfaction	4.8
Number of New Contacts	274
New Distributor Relationships	10
On-site Sales	0
Estimated 6-12 mo. sales	\$105,000
Cost to Company to Participate	\$2,966
Participate in future pavilion?	5 yes, 2 no
Updated anticipated sales after. 9 mo.	\$75,000

Participant comments:

- The space location I thought was great given the total hall presence and booth size/development. Our success at Sweets & Snacks was predicated on our ability to have: 1) 1 oz single serves ready for retail sale and 2) 12 months shelf life.
- Would be better to attend NRA (National Restaurant Association Show). S&S would be a better venue for us to attend if we had a candy or snack product to offer. Contacts made were for future ingredient supply initiatives.
- Red River Valley Potato shippers find the space made available to us in the Minnesota pavilion through the Specialty Crop Block Grant program to be an important marketing tool. Our marketing budget is small so any assistance is very helpful. Export opportunities for us are difficult to come by because of our land-locked location and trade obstacles for fresh potatoes, but being at this show and receiving expert assistance gives us a much better chance of success. As a growers association we pass all leads to our fresh shippers as well as offer the opportunity for them to physically be in our booth. Results to this point are limited but I foresee success in the future with favorable market conditions.
- It's pretty tough to quantify the value of the BAR show in dollars. We did make a distribution contact in Michigan. They were small and I wanted to find a larger distributor, so I am using that distributors' interest in us as leverage to gain a larger and more favorable distribution partner in Michigan. Even though our additional sales are \$0, they could be greater in the future, but sometimes these things move slowly. It is also insightful to pour samples for hundreds of people who are decision makers to get their take on your product. You can learn if any changes are needed, or you can learn which features these decision makers like best about your product so you can tailor your marketing.
- We have yet to see any sales directly from the event but we're also going through a pretty big transition period with the company right now. We're excited though

because the relationships from that event have proved fruitful in that process and will amount to sales likely in the coming year.

- Increase sales anticipated at 25-30%
- My business has definitely been increasing since the show.
- Sales at Sweets & Snacks were based on the anticipated launch of single serve packets for C-Store. The development of single serve packaging has been delayed due to capital shortage. Targeting continued expansion of Sweets and Snacks contacts in 2017 when 1 oz packaging comes online.
- Great Show! Great booth location for small/developing/differentiated brands. Positive reinforcement of existing customers/relationships. For us to generate value, need to get serving size offering that meets customer price point and user needs. Current 4 oz is too much product/too high per unit cost for the new buyers we met at Sweets and Snacks.

Trade shows like the National Restaurant Association/American Food Fair Pavilion, Sweets and Snacks Expo, and BAR 16 @ NRA are largely relationship-building and brand-building events. Participation by entities such as the Northern Plains Potato Growers Association is an obvious example of a “pull-strategy” and “brand-building” on a “commodity-wide” scale, but even when a specialty crop eligible food company participates, we learned that there is little expectation that orders will be taken for products either at the show, or immediately following.

Companies report that it may take several years participating at an individual event to build relationships with buyers and distributors. Participation can increase brand-awareness and may facilitate meetings with service-providers, public entities, and other “makers” that also bear fruit for these entities. Nonetheless, MDA staff survey event participants, post-event, and again after 9 months, in an effort to establish some metrics and a basis upon which to compare event effectiveness. The results from these SCBG-supported events were spotty, and support MDA’s strategy to try supporting other events such as Natural Products Expo West.

While executing this grant, we learned that using *projected sales* as a measurable outcome is a flawed approach. However, by working with the six participating specialty crop-eligible entities through this grant process, and by communicating with them post-event, we now have established a baseline for future (realistic) targets. Realistic targets (baseline) for future events could include metrics such as: 46 new sales contacts per event, and 1.6 new distributor relationships per event participation.

BENEFICIARIES

Collectively, the following participating specialty crop-eligible entities represented specialty crop “market-pull” for potatoes, apples (3), tomatoes, and confectionary sunflower segments. Specific participating specialty crop-eligible participants included:

NRA/American Food Fair Pavilion: Red River Valley Potatoes (Northern Plains Potato Growers Association),

BAR 16 @ NRA: Four Daughter’s Winery/Loon Juice Cider, Lionheart Cider, Rusty Anchor Bloody Mary Mix,

Sweets and Snacks Expo 2016: Nots! Brand sustenance Snacks and Beefree Honee (RAES Foods, Inc.).

Quantitative data is summarized in the table above. Overall economic impact is difficult to project, and would be a long-term measurement.

LESSONS LEARNED

While executing this grant, we learned that using *projected sales* as a measurable outcome is a flawed approach. However, by working with the six participating specialty crop-eligible entities through this grant process, and by communicating with them post-event, we now have established a baseline for future (realistic) targets. Realistic targets (baseline) for future events could include metrics such as: new sales contacts per event (baseline 46/event), and new distributor relationships (1.4/per event participation).

We learned that it is very important to include measurable outcomes that are measurable in the short term, for SCBG projects.

We went into this grant period with the expectation that we would have a very easy time identifying specialty crop-eligible organizations and food companies to participate. What we learned was that subsidized booth cost is a significant incentive, but recruiting is still a time-consuming exercise. We also could reach out to tradeshow industry experts to fine-tune measurable outcomes. For example, using *new sales contacts* as a measurable outcome could be beneficial, but a more descriptive term may be more revealing, i.e. “High-value sales contacts” or “conversations”. We could also review our evaluation processes to see if there are other “quantifiable” outcomes where we could find established baseline data.

ADDITIONAL INFORMATION

See photos of participant booths at trade events, and attached example of booth signup form used to recruit specialty-crop-eligible entities to the events below.



Figure 1. BeeFree Honee booth setup pictured

Figure 2. Nots! Brand Sustenance Snacks booth setup – Nots! are made primarily from sunflower seeds





Figure 3. Minnesota Pavilion at NRA (Northern Plains Potato Growers booth “all lit up”)



**AMERICAN
FOOD FAIR**

Exhibitors make it
BIG at American
Food Fair 2016



Floorplan

May 21-24, 2016 | McCormick Place | Chicago, IL USA
tradeshows.nasda.org

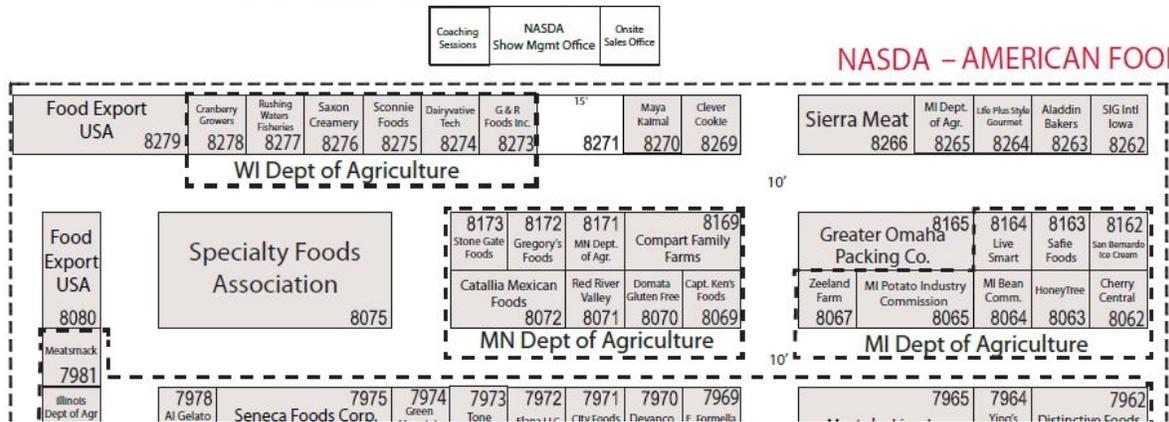


Figure 4. Sample Mn Pavilion floorplan form NRA 2016, including Red River Valley Potatoes (Northern Plains Potato Growers Assn)



625 Robert St. N., St. Paul, MN 55155-2538
www.mda.state.mn.us

Agricultural Marketing and Development 651-201-6539

Minnesota Pavilion Space Application

Use this form to reserve space at wholesale food tradeshow with a MDA/MN Pavilion.

First Name/MI _____ Last Name _____ Phone _____
 Company Name _____ Email _____
 Mailing Address _____ City _____ State _____ Zip _____

The Minnesota Department of Agriculture (MDA) hosts MN Pavilions at domestic and international trade events. Companies that are headquartered here, and those that grow, make, or process food and agricultural products in Minnesota are invited to participate. Contact Brian Erickson at brian.j.erickson@state.mn.us or 651-201-6539 to confirm space availability prior to submitting this application.

To reserve space, check the appropriate box and mail this form with a check to:
 The Minnesota Department of Agriculture, Finance and Budget Division, 625 N. Robert St., St. Paul, MN 55155-2538
 This form serves as your invoice.

<input checked="" type="checkbox"/>	EVENTS	DATES	LOCATION	BOOTH COST **
<input checked="" type="checkbox"/>	2017 National Restaurant Assn/American Food Fair Pavilion	May 20-23, 2017	McCormick Place, Chicago, IL	\$2,000/10 x 10 (25% of total due at signup, balance due by 2/20/17)
<input type="checkbox"/>				space will be saved for "specialty crop" eligible participants; please
<input type="checkbox"/>	First Booth Choices Booth #	Second Choice Booth #		ask re discounts if you are "spec. crop" - eligible (fruit/veg etc.)
TOTAL =				

** Booth prices are subject to revision. Booth splitting is allowed at many of the events listed above, but the cost may exceed 50% of full booth price because of extra fees; please contact us for payment details if a half-booth is desired. These prices apply to companies with 500 or fewer employees. They are generally discounted 50% off retail price. Larger companies can purchase space for a 25% discount.

I, the undersigned, agree to submit timely evaluation forms with sales information to MDA following events and again after 6 months - 1 year, as requested. I understand any funds submitted with this form may only be refunded if MDA is able to replace our booth fee with another company. I hereby grant permission to the Minnesota Department of Agriculture to take and use video and photographs and/or digital images of me for use in printed educational publications or materials, agency outreach materials, electronic publications, websites, or social media sites. I authorize the use of these images without compensation to me. All footage, negatives, prints, and digital reproductions shall be the property of the MDA. I attest that the information submitted with this form is true, complete & accurate.

Applicant Signature _____ Date _____

TO BE COMPLETED BY THE MINNESOTA DEPARTMENT OF AGRICULTURE

\$ _____ DEPOSIT TO REVENUE ACCOUNT: 2000/B0432641/B046R18 DATE RECEIVED _____

In accordance with the Americans with Disabilities Act, this information is available in alternative forms of communication upon request by calling 651-201-6000. TTY users can call the Minnesota Relay Service at 711 or 1-800-627-3529. The MDA is an equal opportunity employer and provider.

Booth sign-up form

Project 15

MN Specialty Crop Block Grant – Federal Fiscal Year 15

FINAL PERFORMANCE REPORT

Contact: Paul Hugunin

Organization: Minnesota Department of Agriculture, Minnesota Grown Program

Contact information: paul.hugunin@state.mn.us

PROJECT TITLE

Intensive, Product Specific Customer Research for Select Specialty Crops

PROJECT SUMMARY

These market research projects capture key customer data and measure customer satisfaction to assist direct market farms, in better serving their customers. With the information provided, growers become more effective marketers, better understand their customers, improve their services, and increase sales and profits. We think it's a triple win for customers, growers and producers, and local foods and products in Minnesota.

In 2012, we conducted market research at Minnesota farmers markets, apple orchards, berry farms and Christmas tree farms. The results were significant and widely shared. The Minnesota Nursery and Landscape Association was so impressed by the data that it requested our assistance in conducting similar market research. The usefulness of that original data lead us to the conclusion that these surveys should be replicated every 3-5 years in order to detect changes in consumer demographics and preferences. In addition to the original four surveys, we added new surveys for CSA farms as well as new USDA FSMIP funded surveys of meat producers and livestock processors.

Some of the most obvious drivers behind the need to update the previous survey were that the way consumers locate and interact with businesses had changed dramatically in the past several years and the rate of change showed no sign of slowing down. The use of social media, smart phones, websites, and credit cards compels farmers to revamp their marketing plans. The baseline data from our previous FSMIP-funded project would prove invaluable in the timely identification of new trends and changes in consumer behavior. Armed with better information on which to build or modify their marketing plans, farmers and farmers markets can increase their marketing efficiency and effectiveness.

Although this project did not build on previous SCBG project, it did build on a previous USDA FSMIP project from 2012. That project included customer surveys of customers at farmers markets, apple orchards, Christmas tree farms, garden centers and berry farms. This SCBG project included four updated surveys (apple orchards, berry farms, Christmas tree farms, garden centers) and one

completely new survey (CSA farms). Simultaneously, a new USDA FSMIP project funded one updated survey (farmers markets) and two new surveys (livestock producers and meat processors).

PROJECT APPROACH

Day There were essentially six steps:

- Publicize the Opportunity
- Recruit Minnesota Grown members
- Design the survey
- Distribute the survey to customers
- Gather feedback
- Analyze and share the results

Publicize the Opportunity

Publicity regarding the research projects was primarily through established and recommended channels such as industry associations, listserves, mailing lists, association newsletters, word of mouth, etc. We were very proactive and responsive when a member suggested a new-to-us publicly channel.

Recruit Minnesota Grown members

Through active and thorough publicity of the research study opportunities, we met or exceeded every participation goal excepting garden centers. As for survey targets, we exceeded all goals and targets.

Design the survey

We worked with related associations and individual farmers/producers throughout the research projects to gain their insights, input, and feedback. We also suggested asking questions they did not bring forward to ensure a complete picture when the analysis occurred. We used past research projects, where possible, for some of the data points to later provide an overview of how customers might vary depending on the types of products and to provide references in understanding changes in customers' habits.

Distribute the survey to customers

Once the surveys were live, we provided members cards and, in some cases electronic information, including the survey website to be given at the point of sale (POS). It is the easiest and most effective way to get customers to an online survey. Depending on the type of member, those who used electronic communications did so via their Facebook page, email and texting lists. We received positive feedback regarding older customers completing the surveys, contrary to our expectations.

Analyze and share the results

After having the surveys live for their designated time period, we closed the surveys and began to looking at the data. Deeper analysis provide much of what you see in the final aggregate reports. Once we understood what the data and comments said, we considered who else cares about this information and shared further information with our stakeholders. Beyond the members, various community groups, industry groups, local planning groups, and others were interested in the results. Results were presented during educational sessions at the 2018 Minnesota Apple Growers Association Conference, 2018 Minnesota Fruit and Vegetable Growers Association Conference, 2018 Minnesota Farmers Market Association Conference. Although after the official project end date, we continue to receive interest in the project results and will be presenting them at the 2019 Minnesota Fruit and Vegetable Growers Association/Minnesota Farmers Market Association Conference and at the 2019 Northern Green Expo.

Project partners included industry associations and members. The majority of their contributions were in recruiting members to participate, advising regarding the design of the surveys, and feedback throughout the process to help us improve as we went along. All partners were integral to the overall success of these research projects.

GOALS AND OUTCOMES ACHIEVED

Targets/Goals and Actuals

<i>Category</i>	<i>Funds</i>	<i>Start</i>	<i>End</i>	<i>Total # of Producers</i>	<i>Target # Participating</i>	<i>Actual # Participating</i>	<i>% of Total</i>	<i>% of Target</i>	<i>Target # Surveys</i>	<i>Actual # Surveys</i>	<i>% of Target</i>
<i>Berry Farms</i>	<i>SCBG</i>	<i>6/8/2016</i>	<i>10/11/2016</i>	<i>139</i>	<i>20</i>	<i>30</i>	<i>22%</i>	<i>150%</i>	<i>750</i>	<i>1136</i>	<i>151%</i>
<i>Apple Orchards</i>	<i>SCBG</i>	<i>9/9/2016</i>	<i>10/25/2016</i>	<i>117</i>	<i>25</i>	<i>31</i>	<i>26%</i>	<i>124%</i>	<i>500</i>	<i>650</i>	<i>130%</i>
<i>Christmas Tree Farms</i>	<i>SCBG</i>	<i>11/21/2016</i>	<i>2/13/2017</i>	<i>55</i>	<i>10</i>	<i>33</i>	<i>60%</i>	<i>330%</i>	<i>200</i>	<i>495</i>	<i>248%</i>
<i>CSA Farms</i>	<i>SCBG</i>	<i>10/9/2017</i>	<i>11/13/2017</i>	<i>90</i>	<i>10</i>	<i>14</i>	<i>16%</i>	<i>140%</i>	<i>200</i>	<i>443</i>	<i>222%</i>
<i>Garden Centers</i>	<i>SCBG</i>	<i>4/19/2018</i>	<i>6/30/2018</i>	<i>89</i>	<i>40</i>	<i>33</i>	<i>37%</i>	<i>83%</i>	<i>2000</i>	<i>2505</i>	<i>125%</i>

GOAL: To increase marketing efficiency of Minnesota specialty crop growers through the adoption of more efficient and effective marketing techniques.

PERFORMANCE MEASURE: The number of Minnesota specialty crop growers that make changes to their marketing plans based on the research data collected through this project. We surveyed all participating growers as well as those who attended one of our presentations at an educational conference to see if they made changes because of our data.

BENCHMARK: The current benchmark is zero.

TARGET: Our goal was that at least 70% of participating growers would make changes to their marketing plans based on this research.

ACTUAL: We were thrilled with the response we received. More than 90% of respondents indicated that they would make changes to their marketing plans because of our research.

BENEFICIARIES

The Beneficiaries include individual members (participating and non-participating), industry associations, affiliated/peripheral organizations, etc. of all five categories of specialty crop producers.

Although there are many indirect beneficiaries such as those who access the data from our website, the number of direct beneficiaries who participated in the survey is significant (141):

Apple growers: 31

Berry growers: 30

CSA farms: 14

Christmas tree growers: 33

Garden centers: 33

LESSONS LEARNED

- **Gift Cards (customer incentives):** If you have each market offer a gift card, have them send them in at registration! This helps motivate them to get the cards out when they arrive (“skin in the game”) and saves headaches later.
- **Customer cards (and “POS cards”):** Create cards that are not full color “bleeds” (no background color is easier to cut), single-sided, and have a very limited amount of text. People don’t want to read much and it saves on confusion.
- **Communication (less is more):** Communicate succinctly with market managers. Spell out step by step what is important, when it’s important for them to know/act. The timing and clarity of communication was vital to the interpersonal aspects of this project.
- **Survey Process Feedback:** Ask for process feedback after the survey has finished collecting data, but BEFORE you share any reports or results! It allows for more judicious feedback and is not

influenced by the results themselves. (Also, it helps in cases where they received NO responses and they may be a bit defensive.)

- **Shortened URLs:** Use all lowercase letters in the shortened URLs and keep them as short as possible. “Fat fingers” happen, but most “issues” we saw was because we capitalized the market names. Subsequent surveys have had no to very few issues.
- **Set Targets:** Articulate a target number of participating members based on a percentage of all known type of members. Articulate a target number of responses depending your target number. (The first time around, this will be an educated guess at best.) These, along with the actual number of members/surveys, will become benchmarks for future studies.
- **Track Nearly Everything:** Track targets and actuals. Track who registered and log all communications with them, including issues that arise. Track positive/negative learnings for future use.
- **Creating Meaningful Reports and Presentations:** This takes more time than you think to build the analyzed data points into a clear and concise story for public consumption. Other survey and analysis tools may help with these aspects.
- **Rural and Urban Comparisons AKA Analysis:** Think about how you will split the data for analysis before you even create your surveys. We decided to create separate surveys, one for each member location. It kept the data clean and separate, however with Constant Contact it also delayed data analysis because we must compile the data manually. Think about any “big questions” you’re trying to answer before you create the survey in your survey tool. It will save time down the line.

The most common unexpected outcome was the many opportunities for members to talk directly with their customers – this was mentioned by participating members repeatedly across product types. Other unexpected outcomes included:

- older customers participated in the electronic surveys with ease
- reducing details shared with the members improved appropriate execution of the surveys
- the positive impacts of site visits far outweighed the cost/time of making such visits.

ADDITIONAL INFORMATION

A copy of the final summary for each of the five surveys is provided along with this report. Reports are publicly available at <https://minnesotagrown.com/minnesota-grown-consumer-research-projects-2/>

Project 16

MN Specialty Crop Block Grant – Federal Fiscal Year 15 FINAL PERFORMANCE REPORT

Contact: Danielle Daugaard

Organization: Minnesota Department of Agriculture

Contact information: danielle.daugaard@state.mn.us

PROJECT TITLE

Statewide Promotion of Fall Harvested Specialty Crops

PROJECT SUMMARY

This project sought to differentiate and promote produce grown in Minnesota through a statewide media campaign that included television ads, digital banner ads, e-newsletters and social media.

The purpose of this project was to create awareness of locally grown produce and encourage consumers to purchase more locally grown fresh produce from local farmers and at grocery stores.

The campaign built on a successful FFY14 SCBG project that promoted locally grown Honeycrisp apples. This project did so by incorporating other fall produce such as potatoes, squash, wine grapes, pumpkins, and onions. We focused on the benefits of seeking locally grown Honeycrisp because the apple was developed locally by the University of Minnesota for our unique climate. For other locally grown produce, we emphasized the freshness and flavor of locally grown produce, whether it's purchased directly from the farmer or at the grocery store. The project did not disparage the mission, goals or actions of any other organization or individual. These ads focused on the positive attributes of Minnesota apples and other produce.

PROJECT APPROACH

The project included statewide TV and digital marketing with stations in Minneapolis/St Paul, Duluth, Fargo, Mankato, and Rochester. These campaigns resulted in ~5,012 visitors to minnesotagrown.com and 430 visits to Minnesota Grown detailed member pages. In addition, the TV ads reached 835,594 impressions to females age 25-54.

Our contracted media vendors KARE 11, Fox 21 Duluth, KEYC, Valley News, and KIMT ran and designed the ads for the campaign.

GOALS AND OUTCOMES ACHIEVED

Each website tile ad and online pre-roll ad was assigned a tracking URL so that the results could be assessed utilizing Google Analytics. Additionally, ads were produced by the KARE 11 video team with guidance from Daugaard. Products were promoted on Minnesota Grown and MDA Facebook accounts to an audience interested in buying locally grown products.

The long term goal is to increase Minnesotan’s awareness for produce grown in Minnesota. It started by promoting Honeycrisp in last year’s campaign. This campaign broadened the messaging to build on last year’s by including other fall produce. The coming year’s project for promoting early season apples will build on both the previous two projects.

Our original goal of \$114,000 was based on the assumption that 1/10 of 1 percent (0.001) of the 4.542 million online ads resulted in a new purchase of Minnesota produce. This would result in 4,540 customers @ \$25.19 per purchase.

	Detailed Member Page Visits	Estimated New Sales Generated
Target	4,540	\$114,000
Achieved	430	\$10,831

The actual outcome of the digital ads was 430 visits to detailed member pages. However, we don’t know the number of people who saw an ad and came back later to view a detailed member page. Additionally, there is no way to capture the actions of TV viewers who visit our website. When you factor this in, estimating the same similar percent of viewers who saw the TV ad, you have a more complete snapshot of the impact of this project.

We achieved 835,594 TV impressions to female viewers age 25-54. 1/10 of 1 percent (0.001) these TV impressions are estimated to result in a purchase of \$25.19 -- meaning 835 detailed member page views and additional \$21,033 of new sales. Combined, we can estimate the full impact of the project lead to be at least \$31,864.

BENEFICIARIES

This project helped increase awareness of fall harvested Minnesota specialty crops for 36 wine grape growers, 110 apple growers, 131 pumpkin growers, 23 potato growers, 8 onion growers, and 59 squash growers.

As further illustrated above, the estimated total impact of the project was \$31,864 in new sales through 4.542 million online ads and 835,594 TV impressions to female viewers age 25-54.

LESSONS LEARNED

Using regional television stations for this project allowed us to reach more Minnesotans, as cable TV stations have a low penetration to Minnesotan households.

Advertising is difficult to quantify and measure. We do our best to measure using the tools available like tracking links and Google Analytics. However, some things cannot be measured directly but are known to be impactful such as broadcast advertising. We know that broadcast TV advertising is a useful advertising tool based on anecdotal evidence from our growers, who report that customers have found their business through this marketing platform.

We have learned that our goal was unrealistic. There were far fewer visits to member pages than originally anticipated, however there were many more clicks on ads. There were 5,012 clicks to landing pages, but only 430 readers continued on to detailed member pages. Being a new project, it has shown the need for us to evaluate our website and refine landing pages to convert readers to individual member pages.

ADDITIONAL INFORMATION

Tile Ad Examples:



KARE 11 Homepage Takeover Examples:

ENTER EMAIL HERE



FEATURED VIDEOS



Grant Administration

Funding expended during grant period:

- Total funds expended for grant administration from 9/30/2015 to 9/29/2018: \$105,812.17
Amount charged as indirect expenses: \$18,869.52
Amount charged as direct expenses: \$86,942.65