



**Final Performance Report
Specialty Crop Block Grant Program
Kansas Department of Agriculture
USDA AMS Agreement Number: 15-SCBGP-KS-31**

Program Contact

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*Indicates that this is also a final report (or that a final report was previously submitted)

Project Title:

Tunnel to Table: Increasing Kansas Specialty Crop Production and Profitability with High Tunnels

Project Summary:

Currently specialty crop production in Kansas lags far behind most other states, while demand for fruits and vegetables in the state is high. This creates a gap in the market that Kansas growers can fill, that has the potential to boost farm incomes, and feed Kansans. A major barrier to increased specialty crop production in Kansas is climate and seasonality. Cold weather limits the growing season to about half the year. Unpredictable weather threatens field crops during the growing season. High tunnel production offers a possible way to control or mitigate some of these challenges.

High tunnel production allows growers to extend the growing season and allows potential increases in yield and income per acre. High tunnels also help decrease pest and disease pressure, and potential food-safety hazards. Nationwide there has been a movement towards increased high tunnel production, and this has started in Kansas as well, particularly with the encouragement of NRCS Environmental Quality Incentive Program (EQIP) funding. A limiting factor in this growth has been a lack of information and technical assistance available that is targeted at Kansas growers. Kansas farm service agencies or institutions need more resources to provide necessary information for current and potential specialty crop farmers to make sound production and business decisions.

This project has built on the success of the previous SCBG funded “Tunnel to Table” project, which surveyed high tunnel users and identified a need for more growing and economic information by high tunnel users. This project took the next step by working with successful high tunnel producers in Kansas and expert service providers to research the production systems and economics of high tunnel production. The result of this collaboration is an in-depth manual that will be made available online and in Extension and NRCS offices throughout Kansas.

Due to a change of staff in the project, KRC requested an extension to December 31, 2016, to complete the work. A final report was prepared in January 2017 and made available to the public.

Project Approach:

The main focus of this project was to develop a resource for Kansas farmers seeking information on high tunnel growing. The major outcome is the production of *Growing Under Cover: A Grower’s Guide* for high tunnel users. This is a follow up to the first volume of *Growing Under Cover* that was produced under the previous Specialty Crop Block Grant, and focused on helping growers understand the basics tunnel production and the various structural options available.

The new work includes three major sections. First, it highlights the stories and methods of five successful Kansas high tunnel growers. These growers use different production and marketing strategies and their profiles provide potential models of successful tunnel usage around the state of Kansas. Second, it provides general high tunnel management information. This information is compiled using the practices of Kansas growers as well as the best management strategies gleaned from across the country. Third it provides crop specific management information, including economic analysis and crop enterprise budgets for seven groups of crops commonly grown in Kansas. These seven groups cover more than a dozen specific crops, but they are grouped by similarity in production methods. The final document is a 40-page full color guidebook that currently published online at kansasruralcenter.org, with digital distribution also provided to Kansas State University Research & Extension and NRCS offices. Additionally, SCBG funds were utilized to print 2,650 copies for distribution around the state. The print copies were completed around December 9, 2016 for distribution purposes.

This publication project involved a number of different partners. Writing and editing involved significant work for Tom Buller, the project coordinator as well as involvement from Kim Oxley and Cary Rivard, of K-State Research and Extension who provided fact checking, information and editorial assistance. This work also included significant involvement with five successful high tunnel growers from across the state: Chris and Christi Janssen of C and C High Tunnels; Brice Wiswell of Gieringer's Orchard; Jay Schleicter of Jays Jellies, Produce and More; Todd Griggs of Griggs Bros. Farm, and Jill Elmers of Moon on the Meadow. These growers met with the project coordinator several times, provided information on their growing practices, high tunnel crop economics (yield data, pricing and labor time) and provided review and comment on relevant sections of the booklet.

Another smaller outcome of the project was the construction of a moveable high tunnel at Johnson County Community College Student Farm on May 10, 2016. This tunnel will serve as a demonstration moving forward for growers interested in moveable high tunnels. A workshop was held where interested individuals could gain experience constructing a moving high tunnel. Greg Garbos, the owner of Four Seasons Tools, a high tunnel and greenhouse manufacturer was present to assist the construction and to answer question. Johnson County Community College partnered with this project, providing a venue, additional funds for the tunnel to be constructed and students to help with construction and organization of the workshop. Additionally, five low tunnels were distributed to growers around the state as part of on-going demonstration capacity for season extension in Kansas.

Goals and Outcomes Achieved:

- **Goal 1: A comprehensive and multifaceted guide to high tunnel production and economics will be developed and made readily available and easily accessible to all Kansans.**

A comprehensive manual has been written and is currently in distribution. This manual has a wide variety of information from profiles of successful high tunnel growers in Kansas, to general management practices, to crop specific production and economic information. The original goal was to print 4,000 copies. Due to the amount of material to be covered, the manual ended up significantly larger and thus the print run was smaller. 2,650 copies were printed and distribution began the week of December 12, 2016.

- **Goal 2: Enhance specialty crop farmers' knowledge of high tunnel production systems, cropping strategies, and analytical tools that increase the productivity and profitability of specialty crops in Kansas.**

KRC co-hosted a moveable high tunnel construction workshop with Johnson County Community College. 25 people attended, and follow up survey results showed 8 farmers and 1 service provider increased their knowledge of high tunnel systems. There was also a presentation focused on crop enterprise budgets at the Kansas Rural Center Farm and Food Conference in November 2016, which was attended by about 30 people. Thirteen farmers provided feedback on that presentation. Ten responded that the budget information they received was useful, and several indicated it will help them take steps to expand. For the two webinars, the combined attendance at time of presentation was 22, but only four completed follow-up surveys. Of those surveyed, three were farmers and one was a farm service provider. All those completing the follow-up to the webinar reported that the information provided was helpful to extremely helpful. Additionally, the webinar recordings have been viewed a number of times since the initial presentation, but none of those viewers have filled out the associated survey. The original target was at least 100 specialty crop farmers will report an increase in their knowledge within the grant period as a result of this project. We have not reached as many as we would like to, but hope to reach more through continued access of the two webinar recordings and distribution of the printed and on-line copies of the manual. The results of our efforts to get feedback have also limited our numbers as fewer than half of the participants have provided information in response to our request at the workshops. The overall response to the outreach efforts has been that the information provided is valuable to growers.

- **Goal 3: Increase Kansas farm service providers' knowledge of high tunnel production and economics, so they will be better equipped to assist specialty crop farmers in Kansas.**

We have thus far reached at least 4 farm service providers through our two workshops, and an additional provider through the webinars. The original goal was to reach 30. We have also mailed copies of the guide to every extension office in the state of Kansas. Since the guide will be made available very close to the end of the grant period the impact of its release will not be *fully* realized until after the project is complete. We will continue to promote and distribute the guide to farm service providers. KRC is committed to ongoing collaboration

with farm service providers in the area of specialty crops and high tunnel production. We will continue to analyze institutional limitations and barriers and collaboratively develop their ability assist specialty crop farmers.

- **Goal 4: Kansas will increase the production and sale of specialty crops throughout the year as a result of increased high tunnel production and efficiency.**

The really outstanding result from our project thus far is that the farmers we have reached have indicated a definite interest to expand production of specialty crops. Our original goal in this category was to have at least fifteen farmers report intentions of increasing specialty crop production, and we have exceeded this goal. At the two workshops conducted so far, we have had sixteen farmers indicate that they plan to expand specialty crop production in the coming season or two. Fifteen of those indicated that the information presented at the workshop made it more likely that they would expand production, and fifteen also noted that information at the workshops increased the likelihood they would expand using high tunnels specifically. There are four additional respondents who have indicated that they may increase or begin specialty crop production. In the webinars, two farmers indicate they plan to expand specialty crop production in the coming year and the information provided made this more likely. Additionally, one webinar participant who did not identify as a farmer indicated that they planned to begin specialty crop production, and again the information in the webinar made that more likely. This indicates that although the total outreach numbers so far have been below the targeted numbers, the project has been effective at targeting those who plan to have a positive impact on specialty crop production in Kansas, and that the information presented has been useful in encouraging expansion in specialty crop production.

- **Goal 5: Increase the awareness and knowledge of the production and economic benefits of movable high tunnels, as well as the construction process.**

This goal was to be achieved through a moveable high tunnel construction workshop at Johnson County Community College. 25 people attended the workshop, which had an information discussion about moveable high tunnels followed by hands-on construction. Attendees who completed evaluation forms noted value in both parts of the workshop. Most frequently commented upon was that participants found the hands-on nature of the workshop to be useful but people also indicated the theoretical information about moveable high tunnels was valuable. Of those who filled out the evaluation almost 70%, indicated increased likelihood that they would use a moveable tunnel in the future and around half indicated they would increase their overall specialty crop production in the coming year as a result of information learned at the workshop. The original targets were that 20 farmers and 5 farm service providers will increase their knowledge of movable high tunnels. Our results showed 8 farmers and 1 service provider increased their knowledge of moveable high tunnels. Six growers planned to incorporate a moveable tunnel into their operation based upon what they learned at the seminar. However, we suspect the actual number is higher because fewer than half of the workshop participants filled out surveys. Due to the structure of the workshop, with participants joining together at the beginning and then working on separate projects, many left without our ability to follow up with them.

Beneficiaries:

The beneficiaries of this project are intended to be farmers who are producing or interested in producing specialty crops, and farm service professionals who work to serve farmers in the state of Kansas. One beneficiary group that we have found that was not initially targeted is those who are not currently farming at all, but are looking to start producing specialty crops in the next few years. There have been at least ten people in this category at our two workshops.

Lessons Learned:

The most challenging aspect of this project is that some of the measurable results have not met the goals. The primary lesson learned related to that point is that projects like this probably need to be assessed over a longer period of time, or have multi-year implementation. The drive to research, compile and publish a significant resource took most of the emphasis during the project period, and outreach will now begin in earnest. The value of this project will continue over the coming seasons. The project coordinator, Tom Buller has several talks based upon this work scheduled through 2017, so the effort expended this year is just the tip of the impact this project can have. For significant research projects like this, it would be ideal to have a two-year timeframe, the first to create, compile and publish information, and the second to follow that up with specific outreach. Another lesson to be taken from that is that issue, is to be more realistic in goal setting. Our initial projections to reach *and get feedback* from 100 farmers, seem optimistic given that the last Census of Agriculture found fewer than 500 fruit and vegetable growers in the state, and the response rate of people who have participated in our events has been just below 50%. Given the small size of the specialty crop sector in Kansas, and especially given the difficulty in getting responses from participants in events it seems that more modest goals are probably merited.

One positive lesson to note in regard to outreach is that our workshops have highlighted a group of interested people, who are not currently farmers but who are seeking information and encouragement to start growing specialty crops. From the feedback we have gathered, the information we were able to provide through workshops, webinars positively influenced their decision to begin specialty crop production in the future. Hopefully, durable resources like *Growing Under Cover: A Kansas Grower's Guide* and the webinar recordings can provide ongoing encouragement.

Another positive outcome is that this project strengthened ties within the specialty crop support community around the state. Cary Rivard and Kim Oxley, of K-State Research and Extension played a pivotal role in the completion of this project, and this has led to other future collaborative possibilities to strengthen specialty crop education and outreach in Kansas. Johnson County Community College and their Sustainable Agriculture program likewise were

important partners. Working with Natalya Lowther and David Coltrain of Seward County Community College for presentations like those at the Kansas Rural Center Conference, has reinforced the network of interested individuals working on similar issues. These connections will prove invaluable as KRC continues to support specialty crop production in the state of Kansas.

Funds Expended to Date:

\$54,158.00

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Additional Information:

Growing Under Cover: A Kansas Grower's Guide – <https://kansasruralcenter.org/our-publications/>

Project Title:

Developing Enterprise Budgets for Alternative Crops

Project Summary:

Although detailed crop enterprise budgets are readily available for commodity crops in Kansas, such budgets for specialty crops have been lacking for this state. Instead, growers and lenders have had to look to other states for such information. The main purpose of this project is to address this need for appropriate enterprise budgets for Kansas specialty crops.

Specialty crop enterprise budgets available on-line tend to have several shortcomings that the budgets for this project seek to correct:

- Many of them are several years old or more, with out-of-date financial data;
- They typically reflect either very large or very small-scale operations, which are not typical for Kansas specialty crop production;
- They don't provide sufficiently detailed labor cost information; and
- They don't reflect the costs of GAP, FMSA or other compliance.

Therefore, Seward County Community College set out to create up-to-date enterprise budgets focused on the Kansas specialty crop production and marketing environment, to provide essential financial decision-making tools to support the Kansas specialty crop industry by:

- Aiding existing farmers to identify and plan for new farm enterprises that will improve their farm's profitability and diversity;
- Aiding new farmers in planning financially sound enterprises from the very start;
- Providing state-based information for identifying areas of potential improvement for current specialty crop producers;
- Providing lenders with the detailed information they need to finance new and growing specialty crop producers; and therefore
- Helping increase specialty crop production across the state.

Seward County Community College's goal was to develop at least eight templates for a wide range of specialty crops and scales of operation, such as:

- High tunnel production of high-value crops such as tomatoes and lettuce
- Large-scale mechanized specialty crops such as sweet potatoes and sweet corn
- Market garden crops such as broccoli and green beans
- High-value crops such as garlic and basil
- Tree fruits such as apples
- Small fruits such as strawberries
- Grapes
- Nuts such as pecans

A unique aspect of these enterprise budgets is to focus on crop-specific information on both management and labor time reflecting real-world production practices for Kansas-grown specialty crops. Extensive collaboration with farmers across Kansas will help ensure that these budgets are as accurate as possible, based on farm visits, interviews, and questionnaires. Growers will test and provide feedback on the enterprise budgets to ensure realistic scenarios.

Growers, lenders and others will be able to access these enterprise budgets online or through County Extension offices.

Project Approach:

David Coltrain began developing a specialty crop enterprise budget template about 15 years ago. The enterprise budget specialty crop block grant project was designed to build on that earlier work, with the goal of creating a user-friendly finished product to be disseminated to growers and support services such as county extension agents and lenders by the end of the project.

Preliminary online research included finding and evaluating specialty crop enterprise budgets from other states, as well as beginning a spreadsheet of contact information for Kansas specialty crop growers. Reviewing these budgets showed a number of pitfalls that were avoided in developing final budgets, such as estimating labor for small plots by simply pro-rating labor for larger-scale crops on a square foot basis, resulting in implausibly low labor requirements.

Attendance at a wide range of workshops and conferences across the state ensured a broader understanding of issues related to specialty crop production. Events attended included:

- *From the Land of Kansas*/Farmer's Market Conference, Manhattan, KS
- Agribusiness Development Workshops in Dodge City, KS
- Regional Farmer's Market Conference, Olathe, KS
- Meet the Buyers Conference, Olathe, KS
- Rural Development Conference, Marion, KS
- Rural Opportunities Conference, Dodge City, KS
- Moveable High Tunnel Construction Workshop, JCCC, Olathe, KS
- Rural Grocery Summit, Wichita, KS

- Kansas Rural Center "Feeding Kansas Dinner and Dialogues", Iola and Ottawa, KS
- Urban Food System Symposium, Olathe, KS
- Kansas Rural Center Annual Conference, Manhattan, KS
- Great Plains Growers Conference, St. Joseph, MO
- Regional Farmers' Market Vendor Workshops, Wichita, Olathe & Girard, KS

These events provided several key benefits:

- Ascertained the interest of growers, technical support systems including county extension personnel, and lenders in having access to up-to-date enterprise budgets for specialty crops.
- Developed a broad understanding of factors affecting farm economic decisions at the individual, family, community and state levels.
- Met growers willing to collaborate on the project and/or interested in obtaining the resulting enterprise budgets; and
- Networked with individuals and organizations that will help to distribute the finished enterprise budgets widely across Kansas, to most effectively reach growers interested in expanding specialty crop production.

Due to hiring difficulties, by the time new project staff was on board, grower/collaborators were already busy with spring planting and markets. It seemed desirable to streamline farm visits by collecting background information about each farm's operations and production practices by email in advance of one-on-one farm visits. This would allow growers to provide general information at their convenience, rather than adding lengthy interviews to already busy schedules, and would prepare the interviewer to focus on appropriate details, reducing the time needed to obtain the needed information from each farm visit. Where basic information is collected by phone or in-person interview, the questionnaires would serve as guides to make sure all topics are covered.

Therefore, an initial survey, a whole-farm survey, and series of crop-specific questionnaires were developed to obtain basic operations information and detailed production information from collaborating growers. A project website was developed to make the survey links and other project information readily available.

A database of potential grower/collaborators was developed based on web research and other resources, and the links to project information and questionnaires were sent to these growers. Follow-up emails were sent to encourage growers to complete the surveys. Where feasible, growers were contacted in person at Farmer's Markets or other events. While most growers were enthusiastic about the project, few growers responded to the online questionnaires.

After obtaining very few responses to the surveys, it became clear that a different approach was needed. Event, such as the Kaw Valley Farm Tour, were taken advantage of to visit farms during

open houses and already-scheduled tours to observe and photograph growing practices without dedicated attention from the farmers.

Significant revisions to the original spreadsheet were begun, with the goal of developing a master template containing most of the line items applicable to more than one of the target crops. User-friendly formatting and layout themes were created to help guide the user in entering their own data into the spreadsheets.

Goals and Outcomes Achieved:

GOAL 1: Produce customizable templates for high-value alternative crop enterprise budgets for Kansas production based on current research and practices

PERFORMANCE MEASURE 1: The goal will be successful if eight customizable templates are produced before the end of the performance period covering the following topics:

1. High tunnel 1,000 square feet (i.e. tomatoes, salad greens)
2. Large specialty crops by acre (i.e. sweet potatoes, sweet corn)
3. Market garden of 10,000 square feet (i.e. turnips, beets)
4. Tiny crop 100 square feet (i.e. garlic, basil)
5. Tree Fruits
6. Small Fruits
7. Grapes
8. Nuts

BENCHMARK: Enterprise budgets for these specialty crops in Kansas do not currently exist, so the production of the templates themselves will be the benchmark.

As of the end of the project, 69 farms had been engaged in conversation about the project, including at least one grower for each crop. Fifteen farms had been visited and photographed, accounting for all crops except for sweet corn and pecans. Two farms were visited but not photographed. The grower contact list contains 203 entries.

Those who responded to the Initial Grower Survey nearly all indicated that they were willing to complete further surveys. However, few of them did follow through on this indication. Additional farm visits/interviews were completed during the winter months as grower had more time to devote to such activities. Feedback was received on the draft template, as well as testing of the draft enterprise budget.

The Specialty Crop Enterprise Budgets (SCEB) are useful at both the crop and whole-farm level as there are both Individual Crop Production Cost (ICPC) worksheets, as well as a “My Farm” worksheet to evaluate start-up and fixed infrastructure costs. By entering farm data in the draft template, farmers provided feedback about the formatting and appropriate data usage of the templates, and the budget data that was provided was aggregated with data from other farms to

develop sample budgets. The result is a detailed Specialty Crop Enterprise Budget Workbook available in Excel with individual crop budgets for all eight originally proposed categories. Therefore, according to the goal, performance measure, and benchmark, the goals and outcomes were successfully achieved.

During the second grant performance period/year, a preliminary version of the enterprise budget template was presented at the Kansas Rural Center Food and Farm Conference in Manhattan, KS. Revised versions of the template were created and presented and demonstrated at winter grower conferences including the Great Plains Growers Conference, the Seward County Community College Specialty Crop Workshop, and other conferences in January and February 2017, including regional Farmers' Market workshops across the state. The worksheets/workbook is also available on the Kansas Specialty Crops website at www.kansasspecialtycrops.wordpress.com. The system allows specialty crop growers to create their own detailed enterprise budgets, including robust modeling of various yield and price scenarios, regardless of the nature of their operation.

Beneficiaries:

Attendance at previously-mentioned events, as well as conversations with growers, showed that there is widespread interest among current specialty crop growers, people who are considering growing specialty crops, and support services such as extension and lenders. Extension agents from outside Kansas expressed interest, as well. These groups are the current and future beneficiaries of the Specialty Crop Enterprise Budgets.

Lessons Learned:

Seward County Community College experienced unexpected difficulty in recruiting qualified staff to complete the project. This meant that little work on the project occurred until late February 2016 when project staff was hired. This delay turned out to have far-consequences on the project that could not have been foreseen.

Additionally, we learned that a project requiring extensive farmer input is similar to a crop: the “seeds” have to be planted in the right season in order for the “crop” to grow properly and be ready for harvest at a particular time. Data collection needs to happen during the “slow” winter season; photos and observations of farm activities have to happen during the growing season. Had the project work been started in October, questionnaires would have been written, distributed, and completed over the winter, and the original project timeline and approach could have been proceeded according to plan. Instead, alternative approaches were developed, and an extension was obtained to allow data collection at times when farmers could provide it.

The following barriers to the process of gathering production method information, necessary to include the correct line items for each crop budget, were identified:

- Farmers, especially larger operations, are extremely busy during the growing season, and don't have time to collaborate with information gathering activities, even though they would like to do so. When asked when they would have time to provide information, responses included "after the Kaw Valley Farm Tour" (Oct. 1 & 2), "after frost", "after Halloween", and "in January".
- Growers who completed questionnaires were mostly new and/or very small growers, resulting in limited usefulness of the information obtained; this is related to the above item.
- Some farmers don't want to be watched during their production and processing activities to collect labor-related data, and only offered tours, not opportunities to observe actual production processes.
- Some farmers encountered technical difficulties with completing questionnaires, such as internet connection interruption.

Funds Expended to Date:

\$61,146.49

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Notation: Mr. Coltrain is no longer with Seward County Community College, but was the project lead during the contract.

Project Title:

SCCC/ATS Specialty Crop Incubator Program

Project Summary:

The objectives of the Specialty Crop Incubation Project were to provide eight potential specialty crop growers with incubator plots and an apprenticeship opportunity, with all needed technical assistance and training provided; to provide educational opportunities for life science teachers, school classrooms, and community members; and to provide healthful food to the community. These objectives were designed to encourage the expansion of specialty crop businesses, and to provide needed training and technical assistance for growing specialty crops in the area.

Project Approach:

INCUBATOR PLOTS:

Plots were made available for the first eight registrants. Unfortunately, over the two years of the grant program we were only able to get five participants to sign up. Multiple of these participants included their families in the endeavor, so we would have eight or more individuals working their plots at any given time. The additional three plots were made available to the City of Liberal as a “community garden” and with community residents gardening and maintaining it on their own. All plots were planted, maintained and harvested throughout the year.

EDUCATIONAL OPPORTUNITIES FOR LIFE SCIENCE TEACHERS:

From June 21st through June 23rd, 2016, four area teachers attended our Specialty Crops: High Value and Sustainable workshop. These participants received classroom instruction, field tours, samples, and hands-on experience working the plots and high tunnels with specialized equipment. Positive reviews were received from all participants, and they each had the opportunity to apply for graduate and/or continuing education credits. This event was expanded upon and offered again during the summer of 2017 (early June 2017). However, only two teachers participated in this opportunity.

SCHOOL CLASSROOMS:

Liberal High School – Entrepreneurship classes – 50 students

This school visit involved speaking with high school students about the potential of growing and marketing specialty crops as a small business.

McKinley Elementary – after school program – 50 students

Garfield Elementary – all day – 300+ students

Cottonwood Intermediate – after school program – 25 students

Lincoln Elementary – after school program – 50 students

McDermott Elementary – after school program – 60+ students

These school visits involved speaking with children about where their food is grown. They each had the opportunity to plant seeds to take home. The students also received a coloring page that included planting/harvesting dates for some of the more common home-grown fruits and vegetables.

COMMUNITY MEMBERS:

We established a bi-weekly newsletter that was sent via email to over 400 recipients. Each newsletter included upcoming events, department updates, articles concerning production and management, and a monthly garden calendar. We received a great deal of positive feedback concerning this newsletter, however, due to the departure of David Coltrain from Seward County Community College the newsletter was discontinued by the end of the grant period. A seminar was offered on February 7, 2017, entitled, “Specialty Crops: Production, Management and Marketing” of which there were 48 individuals in attendance.

We have also taken the opportunity to expand our social media presence by using our Facebook and Instagram pages to promote the SCCC Ag Department and the Specialty Crop grant. We are able to successfully use this format to advertise our weekly Farmer’s Market, February conference and June workshop, as well as keep the community aware of our ongoing work.

PROVIDE HEALTHFUL FOOD TO THE COMMUNITY:

The “Prime Pickin’s” mini-workshops began on April 26, 2016, and were held every Tuesday through the end of October. Throughout the year, we saw over 3,000 community members attend the workshops and harvest produce to take home. The program was started again in earnest during the 2017, but once again due to the departure of Mr. Coltrain, this outreach program was temporarily put on hold.

All Incubator Plot participants were vendors at various Farmer’s Markets in the area. Two of the participants became regulars at the Liberal market.

Goals and Outcomes Achieved:

GOAL 1: Mentor and assist eight apprentice specialty crop growers with incubator plots for one year each, leading to an increase in local growers who sell fruits and vegetables.

PERFORMANCE MEASURE 1: Eight incubator plots operating by June 1, 2016

BENCHMARK: Creation of these plots, where none previously existed.

We were not able to find eight individuals willing to be a part of the incubator plot program for the entire first year of the grant. One family started the program, then removed themselves after the first semester. The remaining family and individual were able to operate the eight plots on their own. During the second season of operation, all eight incubator plots were operated in some fashion, either as individual specialty crop operations or as part of the community garden initiative.

PERFORMANCE MEASURE 2: Increase of growers selling at local farmer’s market by 25% by August 1, 2016.

In 2015, the local farmer’s market had one regular produce vendor. Because of our SCIP participants, in 2016 the local market had 3 regular-attending produce vendors, and several part-time produce vendors, for an increase of over 300%. SCCC was able to start its own farmer’s market on a different day of the week, something which had not been

offered previously. SCIP participants marketed at the SCCC Tuesday Farmers Market. This trend was continued during the 2017 growing season with the SCIP participants from last year (3 regular and several part time) plus the additional new participants (2) taking an active part in the Liberal Farmers' Market and other area markets.

GOAL 2: Educate growers, students, teachers, and community members about specialty crop production and business management, leading to an increase in locally grown food, fruit and vegetable consumption, and awareness of the viability and production of specialty crops.

PERFORMANCE MEASURE 1: 50 attendees at February Alternative and High Value Crops workshop

BENCHMARK: Creation of this education component.

The February 2016 workshop was attended by 30 students and growers, while the February 2017 workshop was attended by 48 growers and students.

PERFORMANCE MEASURE 2: Attendance of 25 agriculture/life science teachers at June workshop

BENCHMARK: Creation of this education component.

The June 2016 workshop was attended by four (4) teachers, while the June 2017 workshop was attended by two (2) teachers for a total of six (6).

Beneficiaries:

INCUBATOR PLOT PARTICIPANTS: all who participated gained measurable knowledge of production, marketing and management; some who looked at this as a one-year project are looking into starting their own specialty crop business as a full-time vocation.

PRIME PICKIN'S ATTENDEES: the 3,000+ community members who came to Prime Pickin's benefitted from an increased level of knowledge about fruits and vegetables, as well as from the free produce they were allowed to harvest on a weekly basis.

LIBERAL FARMER'S MARKET AND SHOPPERS: this local market was woefully lacking in vendors of freshly grown produce; with the onset of our incubator program, the market grew in vendors which brought in more shoppers which brought in more vendors, etc. By the end of the summer, this market was the place to be on Saturday mornings- resulting in a heightened sense of community.

AREA STUDENTS: school children gained knowledge about where their food comes from; they also received tools to encourage their families to grow food at home and make specialty crops a part of their normal diet and eating habits.

Lessons Learned:

Obviously, just because you make a program available, that does not mean others will choose to participate. When promoting the Specialty Crop Incubator Program (SCIP), it feels like people generally look at it as a glorified community garden. It is difficult to get others to buy in to the fact that this is a feasible income generator and that a person could make a career out of being a specialty crop producer. This will become easier as we have participants become successful business-people in the community; however, that takes time and a certain level of extension and outreach. Additionally, with primary and/or secondary educators, curriculum must be vetted at multiple levels within the state and it is a daunting process to attract and retain high-quality instructors in southwest Kansas. As the topics continues to grow and reach a larger audience and educators see how the topics and curriculum can easily and affordably be integrated into their every-day lesson plans, we expect an increase in interest.

Funds Expended to Date:

\$47,200.00

Program Contact:

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Project Title:

Expanding Vegetable Production and Distribution in Western Kansas

Project Summary:

High Plains Food Coop (HPFC) is seeing more demand annually for local and regionally grown vegetables within the High Plains food shed in both a larger urban Denver market and a smaller rural market in northwest Kansas. However, the lack of growth oriented specialty crop producers exists and a more robust delivery distribution system is needed to move the product through aggregation and delivery sites. HPFC is in a transition phase from a direct on-line farmer's market to a more regional food hub moving local and regionally grown food items with ability to increase backhaul and more diversity of products for new markets and consumers in northwest Kansas. Adding these new markets into the HPFC system in 2016 has pushed co-op sales volumes to levels that calls for specialty crop production growth in northwest Kansas and reduces the window of time for the co-op to become a sustainable food-hub. A primary goal for this project was to expand vegetable production by assisting producers with growth while expanding the distribution system. This grant built upon a 2014 specialty crop grant that introduced specialty crop farmers to increasing their production using high tunnels, expanding garden plots and growth planning then plugging their products into the HPFC system.

Project Approach:

The project approach was to recruit growth oriented specialty crop producers, including at least one socially disadvantaged or beginning farmer, then assist those producers with growth planning and combine their production with other HPFC producer farms to participate in the expanded market opportunities. In addition, partnerships in key northwest Kansas communities were targeted to develop aggregation sites, particularly in Thomas County; our most populated and centralized community.

Production accomplishments included outreach to 10 specialty crop producers, growth planning commitments made with three beginning/socially disadvantaged producers and growth planning for two producers and initiating growth planning with third producer. In addition, growth plans were implemented for two producers for 2016 and beyond where 2016 production doubled for one producer, 2016 production increased by 40% for the second producer with the second producer preparing to grow by 3x over next 3 years. Combined these producers could be producing 1-2 acres of vegetables in 3–5 years. Secondary outcomes in production were that additional producers asked to be put in pipeline to receive assistance, the project inspired other producers to engage, HPFC added 3 producers to its membership ranks and 4 new producers have come forward with interest in growing vegetables.

Distribution and aggregation expansion accomplishments included the integration and use of standardized shipping totes color coded for product type and distribution route. For vegetable

and fruit bundles, frozen meat and dry items stackable attached lid (22" x 15" x 13") plastic totes and for fresh loose veggies a Stack-N-Nest (24 x 16" x 19") green plastic agricultural containers were chosen and purchased. For aggregation expansion, 5 sites were explored and prioritized for potential in Thomas County, a temporary drop/pick up site in Colby was established with project partner Thomas County Coalition and used as a drop site for summer 2016 deliveries and conversations with a property owner for separate, permanent aggregation site in 2017 were initiated.

Goals and Outcomes Achieved:

All original goals and outcomes were achieved including increasing production of two producers by 40% and 100% in 2016, nearly doubling the use of Kansas grown vegetables to Senior Bundle Program and 5 vegetable producers added to HPFC marketing system. Then for vegetable distribution a \$35,000 increase of coop sales from 08-2015 to 08-2016 was realized, an aggregation site for vegetables was added to the HPFC system, 166 senior food bundles were distributed at Thomas County aggregation site with a 39% increase over 2015. Lastly, markets were expanded with 25 for-pay bundles going to new soccer mom customers with 100% satisfaction and new distribution sites were added in Decatur and Sheridan Counties

Beneficiaries:

Primary project beneficiary was the specialty crop industry in Northwest Kansas, namely the producers directly and indirectly assisted by this project and the distribution system of the producer network of the High Plains Food Co-op. The customers and consumers in the marketplace benefit by having a greater volume and variety of vegetables to choose from and the local economy benefits by having producers with diverse revenue streams working to bring young people back home. The project specifically targeted low-income seniors and developing an aggregation and delivery system around the HPFC Seniors Farmers Market Promotion grant in 7 northwest Kansas Counties. Through this system, we had a total of 569 low-income seniors receive bundles of fresh vegetables, fruits, and herbs (Cheyenne – 60, Decatur – 67, Norton – 86, Rawlins – 92, Sheridan – 81, Sherman – 100, Thomas – 83).

Direct producer beneficiaries had business growth plans implemented for two northwest Kansas specialty crop producers for 2016 and beyond; 2016 Production doubled for one producer and increased by 40% for a second producer. The second producer is preparing to grow by 3x over the next 3 years and combined these producers could be producing 1-2 acres of vegetables in 3-5 years. Secondary production beneficiaries and an additional growth producer is in the pipeline to receive assistance and the project inspired other producers to engage. HPFC added 3 specialty crop producers to its new membership ranks; 4 new producers have come forward with interest in growing vegetables. Another secondary beneficiary is potentially new interested specialty crop producers. Recent Specialty Crop informational meetings in Sheridan and Cheyenne Counties had 141 combined participants receive information about local farmers' markets and the HPFC market opportunities for increasing specialty crop production.

Lessons Learned:

Specialty crop production challenges continue to exist for producers in Western Kansas including: financial/ business skills, labor and time, scaling up, water, weather, timing of harvest/markets and juggling production and marketing. However, HPFC's transition to a regional food-hub can assist these producers to overcome these barriers to enter the emerging local and healthier specialty crop markets. Also, the slow money triple bottom line nature of these new enterprises is attractive to millennial beginning and socially disadvantaged farmers. However, more resources are still needed to continue development of the production and distribution infrastructure to fully reach the emerging direct, institutional and business to business locally grown food market in northwest Kansas.

Funds Expended to Date:

\$51,000.00

Program Contact:

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Project Title:

Savor the Season Campaign to Promote Specialty Crops

Project Summary:

The *Savor the Season* campaign is an initiative of the Kansas Department of Agriculture's *From the Land of Kansas* trademark program. The campaign was reintroduced in the spring of 2015 at the request of specialty crop farmers.

The campaign was originally and successfully launched by another **non-state organization, the Kansas Rural Center**, but was suspended due to the loss of funding. At the 2014 Kansas Farmers' Market Conference, attendees indicated that the *Savor the Season* materials were one of the most effective tools once available to specialty crop farmers. Post conference, a survey was conducted to create a prioritized list of crops to feature. The survey was promoted via social media and newsletter tools to specialty crop farmers and general consumers.

This grant allowed for the resumption of the *Savor the Season* campaign during the 2015 growing season. The program included recipe and informational cards to aid direct-to-consumer sales from farmers, promote local produce in retail stores and locations that are EBT friendly. The expansion of the *Savor the Season* campaign educated consumers on the selection, storage, nutrition and preparation of Kansas specialty crops.

The *Savor the Season* campaign provided important educational and promotional tools that were not currently being offered by any other organization in Kansas.

Project Approach:

Recipes were created by *From the Land of Kansas*' brand diplomat, Chef Alli. Chef Alli created 40 recipes to be printed and distributed. In addition to printed cards, recipes were made available on the *From the Land of Kansas* blog and promoted via social media tools including Pinterest. This made information available electronically for targeted consumers who prefer the social media format as well as broaden our reach and further promote Kansas specialty crops. The cards were printed and distributed across the state through farmers' markets, interested organizations, and to individuals.

Goals and Outcomes Achieved:

Goal 1: Increase the purchase of specialty crops in the acres where the recipes are distributed

Performance Measure: Track sales of specialty crops in identified markets

Benchmarks: Identify current sales number for 5 identified distribution markets to set benchmark prior to recipe card promotion

Target: Increase sales by at least 10% for at least 5 identified distribution channels

The goal to increase purchase of specialty crop sales where recipe cards were distributed is difficult to quantify. No tracking mechanism was put in place to determine an increase in sales where the cards were distributed. Since the cards were distributed at conferences, events, to individuals, and to farmers' markets, the true distribution of the cards and their impact on specialty crop sales is not able to be determined. We attempted to collect data from twenty farmers' markets that received the recipe cards prior to their market season and distributed them throughout the summer market season of 2017. However, this data was difficult to collect as well, as markets and vendors were reluctant to submit their sales data to us. Many of them do not track this information and those that do, had only just begun and had no prior sales data to compare to. By talking to farmers' market managers, we were able to gather qualitative data through statements such as, "The cards tripled sales for some of our vendors on days we used the cards," and "Using the cards helped people to find ways to use the produce they were less familiar with."

Goal 2: Create 40 recipe cards featuring at least one different specialty crop in each recipe
Performance Measure: Track distribution of featured specialty crops and sales of those crops

Benchmarks:

- **1,400 recipe cards will be initially printed for each recipe. We will pull quarterly reports on what recipe cards are being ordered most frequently, therefore identifying what crops are more popular.**
- **Post-campaign feedback on the impact of *Savor the Season* had on consumer purchasing habits from specialty crop farmers and retailers**

Target:

- **We anticipate all recipe cards will be gone by the end of the specialty crop growing season**
- **We anticipate positive post-campaign feedback from specialty crop farmers and retailers and an increase in sales for every specialty crop featured on a recipe**

The recipes were created by Chef Alli, designed by the Kansas Department of Agriculture, and printed. Due to a good deal received from the printer, we were able to print more cards than anticipated for the set amount in our budget. Distribution of the cards has been tracked throughout the progress of the grant and more than 15,000 of each card has been distributed so far. Due to the increase in number of cards printed, we have not yet distributed them all, but will continue to do so until the supply has been exhausted.

Goal 3: Create online features of each of the 40 recipes on the From the Land of Kansas blog

Performance Measure: Capture website visits and time spent on site via Google Analytics

Benchmarks:

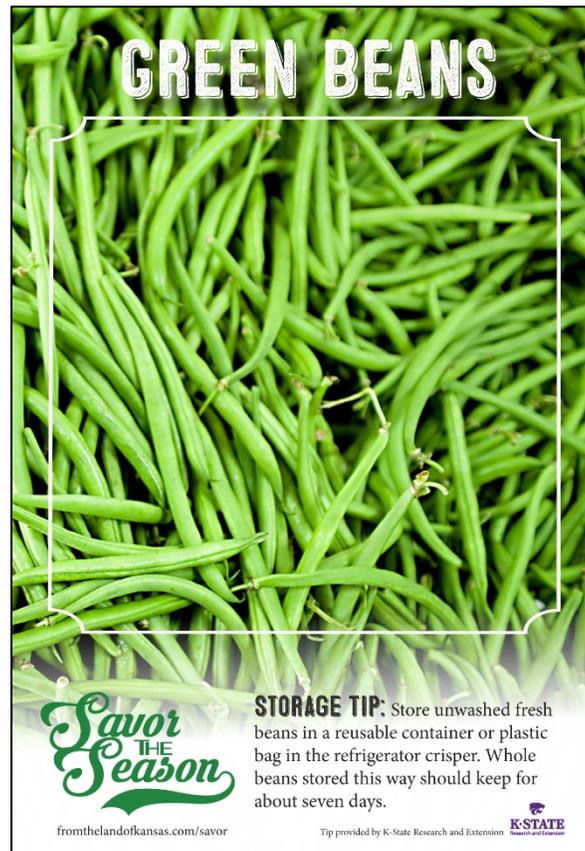
- The anticipated average number of visits a recipe post on the From the Land of Kansas blog received is 250.
- The anticipated average length of time consumers spend on each recipe on the From the Land of Kansas blog 2.75 minutes.

Target:

- We anticipate an average of more than 500 online visitors to each recipe during the featured specialty crop’s peak growing season.
- We anticipate consumers will spend an average of three minutes or more minutes on each specialty crop recipe due to an increase in interest and to become better familiar with the featured crop.

Blog posts were created and posted for each of the 40 recipes. These were promoted regularly on social media through Pinterest, Instagram, Facebook, and Twitter.

- Website blog post visits 340
- Facebook: 15,623 reach, 48 likes, 6 shares
- Twitter: 3 likes, 1 retweet
- Instagram: 235 likes and 2 comments
- Pinterest: 338 re-pins



20-MINUTE LEMON ORZO SKILLET WITH GREEN BEANS, ARUGULA AND ALMONDS



— FROM THE LAND OF —
KANSAS

2 ½ cups vegetable or chicken broth
1 clove garlic, minced
¼ - ½ tsp. red pepper flakes
1 cup water
¾ cup orzo pasta
1 cup fresh green beans, cooked until tender (or substitute frozen green beans, thawed)
zest of 1 lemon
2 Tbsp. chopped fresh thyme or ½ tsp. dried thyme
5 cups baby arugula, roughly chopped (5-6 oz)
kosher salt and white pepper, to taste
freshly shredded Parmesan or Romano cheese
¼ cup sliced, toasted almonds

In a medium sauce pan or very deep skillet, bring broth, garlic, red pepper flakes and water to a boil over high heat; stir in pasta and reduce heat to medium-low.

Simmer until nearly two-thirds of liquid is absorbed by pasta and is beginning to look creamy, stirring occasionally, for approx. 10-12 minutes, allowing pasta to soak up remaining liquid as it cools.

Remove from heat and stir in cooked green beans, lemon zest, thyme, arugula, salt and pepper; serve garnished with Parmesan and topped with almonds.

Nutrition Facts

Serving Size 1 cup (cooked)
Servings About 6

Amount Per Serving	
Calories 170	Calories from Fat 50
% Daily Value*	
Total Fat 6g	9%
Saturated Fat 1.5g	8%
Trans Fat 0g	
Cholesterol 5mg	2%
Sodium 680mg	28%
Total Carbohydrate 23g	8%
Dietary Fiber 4g	16%
Sugars 3g	

Protein	
Protein 8g	
Vitamin A 60%	Vitamin C 15%
Calcium 15%	Iron 10%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

INGREDIENTS: Chicken Broth (chicken stock, contains less than 2% of salt, dehydrated chicken broth, natural flavoring, dehydrated, nitrite, yeast extract, chicken fat, carrots, celery, onions), Water, Green Beans, Orzo Pasta (semolina [wheat], enriched with iron [ferrous sulfate], and B Vitamins niacin, thiamin mononitrate, riboflavin, folic acid), Arugula, Parmesan Cheese (pasteurized part-skim milk, cheese culture, salt, enzymes), Red Chili Pepper Flakes, Almonds, Lemon Zest, Thyme, Garlic, Salt, Pepper.
Contains Milk, Tree Nuts, Wheat.

Recipe and cooking tip by:



Chef Alli's
Farm Fresh Kitchen
come get fed

www.chefallisfarmfreshkitchen.com

COOKING TIP: To cook fresh green beans quickly, steam them in the microwave. Simply place 3-4 Tbsp. broth or water in a microwavable dish, add the green beans and cover loosely with wax paper or plastic wrap, leaving one corner open to allow steam to escape. Microwave on high for 6-8 minutes and you'll have perfect, tender-crisp, bright green beans.

Presented by:



KANSAS FARM BUREAU
The Voice of Agriculture®

Beneficiaries:

Specialty crop producers and consumers both benefitted from this project. The create of the forty recipe cards highlighted the industry and were used by producers to promote their products and educate consumers about them. This in turn increased sales for producers. While we were not able to gather quantitative data, as producers did not have a year to year comparison in sales, nor were they willing to submit such data, they did state that they felt the cards increased their sales.

The consumers benefitted by gaining useful knowledge in the selection, storage, and preparation of specialty crops. This allowed them to feel more confident purchasing the products and find new ways to prepare the products, creating more consumer need for the products.

Lessons Learned:

When ordering the recipe cards, we ordered most of them as individuals of each card, and a few hundred as pre-wrapped packs of 40 cards. It was more cost effective to do this, however we then had to dedicate agency time to building packs of 40 cards, as this was how most consumers preferred to receive them. This was a time-consuming effort that could have been avoided by ordering the majority of the cards as packs, instead of individually.

We also learned that it is very difficult to quantify sales data of specialty crops. Many producers don't feel comfortable submitting such specific information to a state organization. Many also

are unable to accurately track their sales of a specific item if they sell specialty crops as well as other non-specialty crop items. **If this project were repeated, we would not recommend using sales data as a measure of success. There is no possible way at this time to collect sales data from markets at this time for such a project, without limiting the use of the recipe cards to only markets that agree to submit sales data for at least a two-year period. For others considering a similar project, we recommend entering into an agreement with farmers' markets requiring sales data to be submitted prior to the use of materials and after the use of materials.**

Funds Expended to Date:

\$16,014.85

Program Contact:

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Additional Information:

View the From the Land of Kansas Pinterest page to see all Savor the Season recipe cards online:
<https://www.pinterest.com/fromlandofKS/savor-the-season-in-kansas/>

Project Title:

Growing Communities: Modeling School and Community Collaborations for Specialty Crops

Project Summary:

KACEE previously completed a Specialty Crop Block Grant to create Kansas School Garden Curriculum and a How-To Guide for school gardening. That previous project provided some key resources and tools for schools to create, plant, harvest, consume and learn through school gardening. However, when we polled schools about obstacles for school gardening, one of the biggest obstacles cited was the overlay of the growing season with the school calendar—with the most productive portion of the growing season occurring when schools were not in session. This poses two challenges. The first challenge is the need to maintain the garden over the summer and productively utilize any harvests, requiring school personnel or volunteers to work in the garden throughout the summer. The second challenge is with using the gardens as a learning tool. When the most productive portion of the growing season happens over the summer when students are not in school it limits the opportunities for students to work, learn and benefit from a school garden. This project was designed to address these challenges by creating models of community collaborations that work to effectively integrate gardening with students in informal (afterschool and summer) and formal (classroom/school) settings, building on and expanding the Kansas School Garden Program (KSGP) to explore new ways to work through and around these challenges. We engaged in three primary activities to address this project goal:

1. Develop Youth Gardening Community Collaborations: KACEE issued a “Call for Collaboration” proposal to our Kansas Green Schools Network, our KACEE partners and network and statewide Agriculture and Informal partners to collaboratively develop a model program with local schools that promote gardening with kids, connected education, and community partnerships including local farmers and culinary arts schools to grow and prepare and preserve fresh, local produce.
2. Building Community Collaborations for School Gardening: KACEE hosted the three model Community Collaboration teams for a professional development and planning retreat designed to learn how to connect gardening to learning and build successful collaborations using a collective impact model.
3. Creating Model Community Collaborations for School Gardening: KACEE worked with model collaboratives to implement, evaluate and document (through case studies) the development of local school student garden programs which support school gardening programs throughout the year in both the school and after/out of school settings.

Project Approach:

1. Develop Youth Gardening Community Collaborations: KACEE issued a “Call for Collaboration” proposal to our Kansas Green Schools Network, our KACEE partners and network and statewide Agriculture and Informal partners to collaboratively develop a model program with local schools that promote gardening with kids, connected education, and community partnerships including local farmers and culinary arts schools to grow and prepare and preserve fresh, local produce. We received 11 comprehensive

proposals and working with an advisory committee with representation from the Kansas Rural Center, the Kansas Farm Bureau, and River Friendly Farms, three collaborative proposals were selected, Complete High School Maize who proposed to develop accessible gardening space in collaboration with local elementary schools and a retirement home situated near the school, with the intent that the retirement home will utilize the garden in the summer months, tend and harvest produce and collaborate with the high school and elementary school in preparing and preserving harvested food; Erie High School who will work with the schools in the district and local producers to establish fruit trees, a vineyard and an apiary to serve as a both a source of food and produce and to support Kansas College and Career Ready Standards; and Olpe High School who proposed working with FFA and a local preschool and elementary school, with the intent that the preschool in collaboration with students from FFA, which is attended year round, will tend and harvest produce over the summer months to keep the garden in production when students are out of school. In each of these projects, the barrier of how to keep a garden in production over the summer months when teachers and students are not in attendance is uniquely addressed and serves as a model that not only addresses this challenge, but creates a strong community collaboration for gardening.

2. Building Community Collaborations for School Gardening: KACEE hosted the three model Community Collaboration teams for a professional development and planning retreat designed to learn how to connect gardening to learning and build successful collaborations using a collective impact model.
3. Creating Model Community Collaborations for School Gardening: KACEE will work with model collaboratives to implement, evaluate and document (through case studies) the development of local school student garden programs which support school gardening programs throughout the year in both the school and after/out of school settings.

Goals and Outcomes Achieved:

The following represents the stated objectives, outputs and performance measurements in the original proposal and a statement of progress toward those goals in the status column:

Objectives:	Outputs	Output Performance Measure	Benchmark	Performance Measures Monitoring Plan	Status
<p>Recruit three community/ school gardening collaboratives which include parents and a local agricultural producer to attend a planning retreat organized around a collective impact model with the following work outcomes:</p> <p>a. Professional development on key components for successful collaboration.</p> <p>b. Professional development on connecting school gardening to the curriculum.</p> <p>c. Development of a work plan for school/community garden collaboration with a timeline, persons responsible, budget and curriculum connections and sustainability options.</p>	<p>Three high quality applications from school/ community partnerships who have a planning team consisting of school administrators and teachers, organizational staff who provide summer youth programing, parents and a local ag producer who actively participate in professional development and cooperatively create a work plan designed to effectively implement a school/ community garden.</p>	<p>Three work plans which identify how the partnership will implement a school/ community garden and which addresses the following key questions:</p> <p>-How will teachers and summer staff utilize the gardening experience to engage students in learning?</p> <p>-How will the collaborative engage students in career connections to gardening?</p> <p>-What collective, benchmarks, measurements and assessments will be used to</p>	<p>To establish collective impact, the three selected schools will work collaboratively to identify shared measures and as the schools have not yet been identified, specific benchmarks will be identified once schools are selected and monitored as described.</p>	<p>-Shared value creation will be documented in school/community work plans and project reports.</p> <p>-Project teams will have plans to collect data that measures any/all of the following: pre/posttests of student’s attitudes and consumption habits of fresh fruits and vegetables, pre/posttests of student knowledge about fruit/vegetable production, student journals about school gardening, number and demographics of participating students, parent interviews or surveys, teacher/administrat or interviews or surveys, lunch room</p>	<p>Three community/ school collaboratives were recruited and met to identify shared measures for progress on how teachers will utilize the gardening experiences with students, connect to career opportunities and shared baseline and post survey of students on fruit and vegetable consumption.</p> <p>The three projects have submitted quarterly reports on progress that have been submitted to KDA, as well as a final report.</p> <p>KACEE provided professional development on using the school garden as a teaching lab and resource for teachers affiliated with the three projects and a total of 24 teachers, impacting an estimated 1100 students.</p> <p>The three projects agreed to complete a pre/post-test survey on fruit and vegetable consumption with their students. Unfortunately, one project never completed the</p>

		<p>monitor outcomes?</p> <p>-How will efforts be sustained beyond the grant period?</p>		<p>fruit and vegetable audits, etc. This data will be collected by KACEE on a quarterly basis through project progress reports.</p> <p>-KACEE will conduct regular outreach with the collaboratives past the grant period and provide ongoing support.</p> <p>-The Kansas School Garden and USDA People’s Gardens will have three new school gardens documented on their websites.</p>	<p>pre-test and the other two programs ran into challenges with the pre/post survey. In one project, the pre/post was given to a student population that changed somewhat over the course of the year and the other was given to preschool students and was reported by the project coordinator that “the audience that took the survey was the Early Childhood Education students. FFA members read the questions to them in early June and again in April. Both times I felt they seemed easily prompted to answer a certain way, or were unsure of their answers. In June, most answered that they do eat vegetables and fruit with the favorites being corn, beans, and strawberries. Every time we brought produce in, they were very willing to try it and they would be honest if they did not like an item. I think it really helped them want to try it when they helped plant or care for the plants.” Our data using this survey was not conclusive.</p> <p>All three projects reported observational data regarding increased interest in trying and eating fresh produce.</p>
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<p>Pilot three community/school gardening collaboratives which include parents and a local agricultural producer which will provide a strong model of shared valued creation between schools and community groups to increase the number of school/community gardens in Kansas.</p>	<p>Three teams according to work plans meet to plan, gather supplies, work with students and local ag producer to plant gardens, engage students using the garden as a learning lab, engage summer program children in maintenance and partial harvest of the garden and connections to careers in production, sale and use of fresh produce.</p>	<p>Schools and community partners gather baseline and evaluation/assessment data as outlined in their work plans. Measurement opportunities described previously.</p> <p>KACEE will collect the common measurements to analyze collective impact of projects.</p> <p>Schools will keep ongoing visual and written documentation of the implementation process and provide documentation, assessment data and update of progress on a quarterly basis.</p>	<p>Benchmarks will be established in the approved work plans and evaluation and assessment data will be analyzed by the schools and KACEE against identified benchmarks. Again, due to the nature of this project, it is not possible to identify benchmarks prior to selecting the pilot schools.</p>	<p>-Shared value creation will be documented in school/community work plans and project reports.</p> <p>-Project teams will have plans to collect data that measures any/all of the following: pre/posttests of student's attitudes and consumption habits of fresh fruits and vegetables, pre/posttests of student knowledge about fruit/vegetable production, student journals about school gardening, number and demographics of participating students, parent interviews or surveys, teacher/administrat or interviews or surveys, lunch room fruit and vegetable audits, etc.</p> <p>-KACEE will conduct regular outreach with the collaboratives past</p>	<p>The three projects developed work plans and spent over a year implementing them. Accomplishments include the development of preschool/elementary garden spaces for the Olpe project led by FFA at the local high school, raised bed construction for the Complete High School Maize/Retirement home/elementary school collaboration and planting of orchard trees and fruit vines, apiary workshop and installation at the Erie School District Project.</p> <p>As previously stated, all three projects brought in teachers affiliated with their gardens for additional professional development on how to use the garden as a learning lab and provide teachers with the tools and resources to effectively integrate school gardening into their curriculum.</p>
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				the grant period and provide support when needed.	
Development of case studies which outline the processes, challenges, impacts and accomplishments of the collaborative which may be used by other schools and community groups to establish similar partnerships.	Using the ongoing documentation and the measurements collected by schools and community groups, KACEE will produce case studies of each of the school/ community garden collaboratives which highlights accomplishments, outcomes, impacts, challenges and lessons learned which will serve as a resource for other schools who wish to start school gardens in Kansas.	The case studies will be published on the Kansas School Garden Website and will be shared with the Kansas Department of Agriculture as a final report and through local, state and national conferences such as the Kansas Environmental Education Conference, the Kansas Public Health Administrators Conference, the Project Learning Tree Coordinator's Conference and the North American Association for Environmental Education.	The final report will utilize benchmark data to articulate the impact in both quantitative and qualitative measures.	The development of the case studies will occur by September 30, 2016 and case studies will be published at www.kansasgreenschools.org and distributed to our network of 485 Kansas Green Schools, through our KACEE and Kansas Green School Facebook pages (reaching more than 1200 educators), and presented to the Kansas Department of Agriculture and any additional parties KDA identifies.	Completed, posted as a resource here: http://www.kansasgreenschools.org/resources-1 . Also shared with the Kansas Green Schools Network and KACEE social media, reaching an estimated 2000+ We will continue to promote the outcomes of this project at national conferences and are working with a national organization on potentially expanding this type of program more broadly than Kansas.

Beneficiaries:

Beneficiaries of this project include:

- Three school/community gardens were created and specialty crops planted and when possible, harvested and consumed by students and their families include: carrots, bok choy, spinach, tomatoes, basil, peppers, pumpkins, grapes, apples, cherries, pears, strawberries, blackberries, raspberries and blue berries. These garden spaces will produce an estimated 500 pounds of produce a year and 60 bushels of tree fruit annually when in full production. The grapevines will produce an estimated 700 pounds of fruit per year when fully productive.
- Erie School District, led by Erie High School students, the Complete Maize High School Students and the Olpe FFA, preschool students and elementary students have been engaged through this project, impacting more than 500 students in the three projects
- 24 educators participated in professional development to connect school gardens to their curriculum. These 24 educators will work with an estimated 600 additional students.
- The three projects have established partnerships with over 16 community partners who provide help with planting, maintenance, harvest, food preparation, food distribution and support in maximizing garden production
- Information about these projects has been shared at conferences, through onsite visits and in the media, educating others about the projects and providing a good model for school gardening
 - http://www.parsonssun.com/news/article_2f809b5c-217b-11e7-a104-bf5c71f4cb16.html
 - <http://www.fourstateshomepage.com/news/high-school-vineyard/813132492>
- Students at early childhood centers, elementary schools and high schools have enjoyed fresh produce from these gardens in school meal programs, special event meals, snacks and sometimes just straight from the garden! In one program, enough produce was produced that students were able to take some home to share with their family. One of the projects will be donating food to a local food assistance program when the crops are fully producing.

Lessons Learned:

Throughout the implementation of this grant, we recognize that the timing of the grant when overlaid with the timing of the school year and the growing season can present significant challenges. The project aims to address the challenges of the school year and growing season, but we didn't anticipate the delay in the project start date and how that created challenges with the growing season and therefore why we requested a no-cost extension to the project. Another challenge of this grant is the process of sub-grants to three local projects. While two of the three projects were extremely timely in submitting workplans and budgets, the requested quarterly and final reports, we struggled with one project that wasn't as adept at submitting documentation in a timely factor, which caused our organization challenges in submitting our reports in a timely fashion.

Additionally, we are learning how to have project diversity with common measures and the challenges associated with that. We attempted to get data on fruit and vegetable consumption from all three projects as a pre/post-test measure. However, because one of our projects planted grapes, fruit trees and fruit bushes, they didn't complete the pre/post-test survey with students as they didn't have time within the grant period to get production on their fruit vines, trees and bushes, therefore, there was no "treatment" of having fresh and available produce. Another project completed the pre/post-test, but with different students so it was literally apples to oranges comparison. What we had a great deal of was anecdotal data from the three projects of students trying foods that they had not previously, requesting and eating more fresh foods than previously and developing a deeper understanding of the huge variety of fresh foods.

Despite these challenges, what we did learn is that when the stage is set to develop community partnerships for school gardening, the community engages and meaningful partnerships help schools effectively plant, maintain, harvest and distribute fresh fruits and vegetables. Further, many of those partners are willing to invest time, money and resources to assist schools in developing and maintaining their gardens, as was the case with the Complete High School Maize project, where a parent donated supplies and labor to put down handicap accessible concrete paths in their gardens. Further, local producers were involved in each of the projects and are a critical resource for teachers and student in learning how effectively garden. Finally, in each of the projects, there was an element of multigenerational activity. We believe this was an important, unanticipated outcome. It sets the stage for high school students to become mentors and share their learning with younger

Funds Expended to Date:

\$63,985.00

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Complete High School Maize
Multigenerational Specialty Crop Collaboration Project