

2019 Annual Report of Accomplishments and Results

Kansas
Kansas State University
Kansas State University Agricultural Experiment Station and Cooperative Extension Service (KSRE)

I. Report Overview

The NIFA reviewer will refer to the executive summary submitted in your Plan of Work. Use this space to provide updates to your state or institutions as needed.

1. Executive Summary (Optional)
<p>In 2019, K-State Research and Extension agents, specialists and volunteers recorded 1,270,678 direct educational contacts with extension programs. Also, in 2019, volunteers invested more than 311,004 hours in helping to extend Extension programs that resulted in an additional 253,267 direct education contacts.</p> <p>In 2019, K-State Research and Extension continued to focus on five planned program areas: Global Food Security and Hunger, Food Safety, Natural Resources and Environmental Management, Health and Wellness (Childhood Obesity) and Healthy Communities: Youth, Adults and Families. Program highlights include:</p> <p><u>Global Food Security and Hunger</u></p> <p>Managing Risk in Agriculture: Education is needed to help producers and lenders evaluate their current financial situation and what strategies, resources and tools are available to help them marketing and risk management in the current market and financial situation. A series of ten meetings were conducted across the state with a total of 1,192 people participating. Among those attending, 69% were farmers or ranchers, 13% were landowners, 4% were lenders, 3% were farm managers, 2% were educators and 9% were other careers or professionals, including several crop insurance agents.</p> <p>When asked about the level of awareness about the Farm Bill prior to attending, the average score on a 5-point scale was 2.26, but the level of awareness had increased to nearly 4 following the meeting. The level of understanding for selecting the best program prior to the meeting was only 2.17 on the same 5-point scale but increased to 3.81 following the meeting. Both increases are significant and suggested that the meetings were very helpful in producers being able to make the election decision wisely.</p> <p>Important tools and articles were posted on the AgManager.info website, several of which had significant usage. The ARC/PLC tradeoff spreadsheet had a total of 5,354 downloads during this period. An article which updates estimates of Marketing Year Average (PYA) prices monthly had 15,346 views and a companion piece had 2,886 views. Maps showing previous payments by county had 4,079 views.</p> <p>Producer Education Enhances Crop Production: Kansas planted an estimated 13.3 million acres of corn, soybean, and sorghum last year and produced the most bushels of these crops in the state. These crops primarily support feed resources for the livestock industry and ethanol production, which helps reduce dependence on foreign oil.</p>

The importance of these summer row crops to the rural Kansas economy underscores the need for educational activities to ensure that production in the widely adverse weather of Kansas is protected and profits can be enhanced. Eighteen in-depth winter corn, soybean, and sorghum schools were held across the state to address production issues. The programs focused on the crop production research and were supported by the Kansas Corn, Kansas Soybean, and Kansas Sorghum Commissions and several industry partners. More than 1,165 people attended these schools and 88-90% of attendees indicated the information received will influence their management decisions. This translates to approximately 1.1 million acres affected by this effort with an estimated economic benefit of \$9.8 million.

Increasing Awareness of Financial Performance on Kansas Farms and Ranches: Volatility in commodity and input prices make business planning in agriculture difficult. Education, training and assistance in keeping good records, and in the appropriate methods to analyze and use those records, will provide the needed knowledge to make informed decisions.

The goal of the Kansas Farm Management Association (KFMA) program is to provide each member with farm business and family financial information for improved farm business organization and decision making to minimize risk while increasing sustainability and profitability. Through one-on-one consultations, 2,411 Kansas producers increased awareness of their current financial position and their financial performance during the past year. Of these producers 2,277 had an opportunity to benchmark their performance against other farms in their region; farms of similar type; as well as, the most economically profitable farms. Additionally, at least 105 producers in poor financial condition, during a transition, or with family conflict, gained an improved understanding of how to address their situation based on actual records and realistic projections.

Food Safety

ServSafe Food Safety Education Program: The U.S. Centers for Disease Control and Prevention estimate that roughly one in six people in the U.S. (about 48 million) get sick, 128,000 are hospitalized and 3,000 die of foodborne illness each year.

K-State Research and Extension professionals in partnership with the Kansas Restaurant and Hospitality Association (KRHA) provided food safety training to foodservice outlets, schools and community organizations. The ServSafe® Food Safety Education program is a nationally recognized certification and training program targeting foodservice managers, entry-level food handlers, and community organizations who provide food to the public. In 2019, ServSafe® Food Safety Manager Classes reached 542 foodservice workers statewide. These 32 classes resulted in 429 foodservice employees receiving ServSafe® Food Protection Manager Certification. Also, in 2019, 25 ServSafe® Food Handler classes were held with 614 participants completing the class. Of the participants completing the post survey, 88% indicated they planned to use what they learned at work and/or at home. Participants reported they intended to wash their hands, check food temperatures and use food thermometers more often, and to be more cautious of cross contamination and food left out at room temperature.

Value-Added Foods and Food Safety: The Value-Added Foods Program provides educational opportunities and technical support to food companies and entrepreneurs in the state along with personnel from regulatory agencies and students. This past year, the staff responded to more than 1,000 requests from more than 150 food processors and start-up businesses, and tested and generated ingredient labels and Nutrition Facts panels for more than 200 food products. A conservative estimate of the dollar value of the services provided to Kansas companies and entrepreneurs in 2019 is \$1 million based on industry standards for the cost of such services.

Food Safety Education and Outreach for Fruit and Vegetable Producers: There is a great need for technical expertise and education among aspiring, new, and existing fruit and vegetable producers. Many small-acreage produce growers are first-generation farmers with limited resources. Kansas horticulture agents partnered with Extension specialists and outside agencies to provide training for fruit and vegetable producers on topics relating to food safety, production practices, and risk management. These programs included the Growing Growers program in Kansas City and Wichita.

More than 475 participants attended the 20 Growing Growers workshop held at the two locations. An average of 80% of workshop participants reported gaining new knowledge from the workshops. Sixteen apprentices started the Growing Growers apprenticeship program and six graduated at the end of the season.

Natural Resources and Environmental Management

Water Technology Farms: The Ogallala Aquifer is in decline. Many producers are seeking ways to extend the usable aquifer life and limit the economic impact of loss of aquifer pumping capacity. Several producers approached K-State Research and Extension and the Kansas Water Office to offer their farms to demonstrate the testing of the latest irrigation technologies. In 2016, three water technology farms were established, and by 2019 there were 15.

Water technology farms are a three-year public-private partnership where irrigation technology is demonstrated, related research is conducted, and water conservation is supported. As demonstration areas were established further east of the Ogallala Aquifer, the focus has shifted from new irrigation technologies to management techniques and cropping patterns implemented on a larger scale.

Field days on each farm highlighted and assessed the performance of the innovative technologies and management practices with almost 400 producers attending each year. In addition to the field days, there have been tours on the farms throughout the year, representing the Kansas Legislature, national commodity groups, national and regional media correspondents, and a variety of international and local visitors. Invitations for researchers to speak at regional and national forums have also occurred.

K-State Watershed Research and Implementation Partnership (WRIP) Program: The K-State Watershed Specialist program is a partnership with the Kansas Department of Health and Environment and other agricultural groups. The goal is to reduce non-point source pollution from cropland and livestock sources with the priorities of restoration of impaired water resources; abatement of fecal coliform bacteria, atrazine and pesticides; reduced nutrients and sediment loads; protection of water resources; and implementation of farm/producer best management practices (BMPs).

In 2019, the Watershed Specialist team provided technical assistance in the implementation of 225 BMPs. This includes 25 livestock BMPs affecting nearly 4,390 animals on 1,607 acres; 193 cropland BMPs affecting roughly 23,270 acres and 7 streambank BMPs protecting 6,060 linear feet of streambank. In addition, landowners/producers committed to implementing 29 sediment BMPs on 5,837 cropland acres.

Health and Wellness (Childhood Obesity)

Dining with Diabetes Encourages Healthy Behaviors Related to Decreased Chronic Disease Risks: According to recent reports, over 10% of Kansans are affected by diabetes, an underlying and contributing cause of death in the state. The majority of those managing this chronic disease are low-income residents. Diabetes is an expensive disease costing an average of \$16,752 a year, per person, about \$9,601 of which is directly attributed to diabetes. Having access to affordable and researched-based education, on how to improve their health behaviors to manage their diabetes, is vital for this population.

Dining with Diabetes, a national Extension program, consisting of a series of four classes, includes sessions on nutrition education, healthy cooking demonstrations, simple physical activity routines, and tasting healthy foods. The classes are designed for people with diabetes and their family members, caregivers, and support persons. In 2019 there were 13 local units that delivered the program reaching 178 participants.

All Dining with Diabetes participants were evaluated for their fruit and vegetable consumption and physical activity involvement on the first and last day of the program to assess changes in behavior. It was reported that, participants ate a variety of vegetables and fruits more than 4 days a week and increased the number of days they followed healthy behaviors. Such behaviors included exercising > 20 minutes a day, an increase from 2.4 days to 3.6 days per week, and reading food labels prior to consuming a product, an increase from 2.9 days to 3.7 days per week.

Staying Active in Aging Improves Health and Well-Being: A CDC health survey indicates that only 9.7 percent of Americans 65 and up meet physical activity guidelines. The death rate from falling in the United States has increased by 30% from 2007 to 2016. In 2015, the total medical costs for falls totaled more than \$50 billion. Medicare and Medicaid shouldered 75% of these costs.

Stay Strong, Stay Healthy (SSSH) aims to provide older adults with access to a safe, structured and effective exercise program capable of building muscle and increasing bone density, thus decreasing frailty, osteoporosis and the risk of falls. In 2019, Extension Agents, who are certified instructors, provided sixty SSSH courses involving 739 participants.

A representative sample of program graduates, responding to a 3 month follow up survey, reported the following:

- Greater than 80% report strength and flexibility improvement
- 74.6% indicate they sleep better
- 95.8% feel overall health has improved

Preventing Overweight and Obesity Among Youth in Low-Income Racial/Ethnic Communities: Childhood obesity has nearly tripled over the past 30 years. There are significant racial and ethnic disparities in obesity prevalence among U.S. children and adolescents. The goals of this project were to identify behavioral and environmental factors of overweight/obesity in the target population. Communities planned and implemented regular and sustainable youth-inspired nutrition and physical activity programs that lead to school policy changes such as delayed the start of the school day by 10 minutes to allow more time for youth to eat breakfast, extending the school lunch period from 20-45 minutes, initiating snack programs that included “Grab and Go’s” to provide healthy snacks in between morning classes, and after school snacks for students involved in extracurricular activities.

Results reported from this project included: more family engagement in activities and learning about nutrition in the home, youth eating more and a greater variety of fruits and vegetables; decrease vending machine sales at school; drinking less soda; more water; increase in youth participation in school athletics; exposure to new activities; increase in youth participation in nutrition and physical activity events and programs in school and community; and increased youth leadership in school; improved sense of community and increased community relations.

Healthy Communities: Youth, Adults and Families

Changing the Future of Communities One Grant at a Time: Nonprofits, educational and government organizations struggle to find the resources they need to fund priority projects. From November 2016 to October 2019 local agents hosted 44 grant writing workshops to 1,258 people.

Fifty percent of grant workshop participants had never written a grant before; 29% had written local grants, 14% had written federal grants, 7% identified as “other experience.” Of the participants who responded to the survey 6-12 months after their grant workshop (32% response), \$10.8 million of grants were written with \$6.2 million of successful grants (57% success) to fund leadership, education, prevention, emergency assistance to low income families and non-profits, art programs and exhibits, health and nutrition programming, culture of health, parenting classes, rent assistance, park improvements and recovery classes.

Financial Knowledge and Skills for Sound Financial Decisions - Senior Health Insurance Counseling for Kansas (SHICK) Every day 10,000 Americans become Medicare eligible. Many do not understand health insurance or Medicare. Insufficient or inaccurate information can lead to late enrollment penalties, gaps in coverage, strained finances, and delayed health care treatment for those who are newly eligible for Medicare.

During the 2018-2019 program year, K-State Research and Extension professionals in 27 local units covering 42 Kansas counties provided health insurance education, in both one-on-one and group-settings, for soon-to-be eligible, newly eligible, and long-time Medicare beneficiaries. During the fall 2018 open enrollment period, K-State Research and Extension educated 8,526 Kansans through the process of Medicare plan comparisons and explanation of benefits covered. Participants who completed plan comparisons and changed prescription drug or Medicare advantage plans to a plan that better met their needs saved a total of \$6,078,410.

Progressive Community Vitality Processes: Kansas communities struggle to remain vital. K-State Research and Extension created a comprehensive approach to help communities help themselves to preserve, create and improve their future. Educational programs address needs assessment and prioritization, goal setting, project development, citizen engagement, capacity building, evaluation and documentation of impacts. Communities can participate at their level of readiness and comfort. These programs include:

- First Impressions assists communities in determining their strengths and weaknesses.
- Kansas PRIDE communities are encouraged to assess their needs, set goals, implement plans, evaluate the impact and celebrate.
- The Board Leadership Series helps train new and current community leaders in the areas of board roles and responsibilities, how to handle funds, conflict management and strategic planning.
- Grant Writing helped address funding sources for community initiatives to increase confidence in grant writing and develop new research methods for finding grants.
- Ripple Effects Mapping has been successful in helping to tell the story of a project and creating excitement among participants to start on a new or another phase of a current project.

Youth Development 4-H Ag Innovators Experience: Kansas agriculture accounts for 45% of the state’s local economy and employs 13% of the state’s workforce. Youth need to be challenged to have a basic understanding of food production, agriculture and STEM. The 4-H Ag Innovators Experience (AIE), a collaboration with National 4-H Council and Bayer, challenged young people to apply critical thinking and STEM skills to a real-world agriculture challenge

Three teens and two adult volunteers attended an intensive national training on this year's Native Bee challenge at Iowa State University. Using the train-the-trainer model, these three teens then trained the additional 17 members of the AIE leadership team. That team of twenty teens taught the Native Bee challenge, an educational activity focusing on the importance of pollination to agriculture and its connection to a sustainable food supply, specifically as it related to native bees. The challenge helped introduce 1,373 youth to native bees as important pollinators, exploring their relationship to agriculture and the food we eat.

4-H Youth Development Military Partnerships: Kansas 4-H Youth Development has strengthened partnerships with Fort Riley Army installation and McConnell Air Force base. The partnerships were created to provide predictable, quality youth programs along with support of educators working in Child and Youth Programs through 4-H Positive Youth Development training, curricula, and resources.

At both Fort Riley and McConnell, Extension staff worked to support 4-H club programming and experiences for the youth participating in after-school and summer programs. Some of these experiences include project clubs where youth focus on a specific 4-H project for six weeks. The project experiences also include development of leadership skills and community service components that help youth develop concern and caring for their community.

Extension staff have also worked to provide positive youth development training for military after-school program staff on positive youth development (essential elements, life skills, experiential learning, etc.), STEM and coding, diversity, project planning, curriculum, and more.

II. Merit and Scientific Peer Review Processes

The NIFA reviewer will refer to your Plan of Work. Use this space to provide updates as needed or activities that you would like to bring to NIFA's attention.

Process	Updates
1. The <u>Merit Review Process</u>	No updates, please refer to the Plan of Work.
2. The <u>Scientific Peer Review Process</u>	No updates, please refer to the Plan of Work.

III. Stakeholder Input

The NIFA reviewer will refer to your Plan of Work. Use this space to provide updates as needed or activities that you would like to bring to NIFA's attention.

Stakeholder Input Aspects	Updates
1. Actions taken to seek stakeholder input that encouraged their participation with a brief explanation	No updates, please refer to the Plan of Work.
2. Methods to identify individuals and groups and brief explanation.	No updates, please refer to the Plan of Work.
3. Methods for collecting stakeholder input and brief explanation.	No updates, please refer to the Plan of Work.
4. A Statement of how the input will be considered and brief explanation of what you learned from your stakeholders.	No updates, please refer to the Plan of Work.

IV. Planned Program Table of Contents

No.	Program Name in order of appearance
1.	Global Food Security and Hunger
2.	Food Safety
3.	Natural Resources and Environmental Management
4.	Health and Wellness (Childhood Obesity)
5.	Healthy Communities: Youth, Adults and Families

V. Planned Program Activities and Accomplishments

Please provide information for activities that represent the best work of your institution(s). See Section V of the Guidance for information on what to include in the qualitative outcomes or impact statements. Add additional rows to convey additional accomplishments. You may expand each row as needed.

No.	Title or Activity Description	Outcome/Impact Statement	Planned Program Name/No.
1.	Risky Business: Managing Risk in Agriculture	<p>Though average farm income in Kansas has increased somewhat in the last two years, many producers are still experiencing financial stress. Output prices for most commodities remain relatively low and many producers are operating with small or negative margins. Farmers have experienced additional stress in dealing with a new Farm Bill which was passed earlier in the year which included changes to government programs and crop insurance.</p> <p>Producers and lenders need to know how much they can anticipate receiving through the ARC or PLC programs, as this affects lenders' willingness to continue to provide operating capital and other lending for agricultural operations. Education is needed to help producers and lenders evaluate their current financial situation and what strategies, resources and tools are available to help with marketing and risk management in the current market and financial situation.</p> <p>A series of ten meetings were conducted across the state with a total of 1,192 people participating. Pre and post evaluations were conducted at each location. Among those attending, 69% were farmers or ranchers, 13% were landowners, 4% were lenders, 3% were farm managers, 2% were educators and 9% were other careers or professionals, including several crop insurance agents.</p> <p>Of those attending, 93% found the meeting valuable. When asked about the level of awareness about the Farm Bill prior to attending, the average score on a 5-point scale was 2.26, but the level of awareness had increase to nearly 4 following the meeting. The level of understanding for selecting the best program prior to the meeting was only 2.17 on the same 5-point scale but increased to 3.81 following the meeting. Both increases are significant and suggested that the meetings were very helpful in producers being able to make the election decision wisely.</p>	GLOBAL FOOD SECURITY AND HUNGER (1)

		<p>Other Farm Bill educational activities have taken place since these meetings were held, including widespread extension involvement with county USDA Farm Service Agency meetings where more than 2,300 participants attended.</p> <p>Agents and specialists also conducted more than 325 individual consultations with producers to help them with the election decision. These consultations were the final component of the educational efforts of this project.</p> <p>Important tools and articles were posted on the AgManager.info website, several of which had significant usage. The ARC/PLC tradeoff spreadsheet had a total of 5,354 downloads during this period. An article which updates estimates of Marketing Year Average (PYA) prices monthly had 15,346 views and a companion piece had 2,886 views. Maps showing previous payments by county had 4,079 views.</p>	
<p>2.</p>	<p>Calving Management Schools Improve Calf Health</p>	<p>Agriculture is the largest economic driver in Kansas, and cattle and calves represented 52% of Kansas agriculture cash receipts in 2018. Increased demand for food coupled with population encroachment onto agricultural land, underscores the importance of increased production efficiency by livestock operations. In addition, increased percent calf crop (calves weaned as a percentage of cows exposed for breeding) is critical to individual producer profitability. Each calf born live and reaching weaning in good health represents a step toward improved profitability for the producer and in feeding the world.</p> <p>Calving Management Schools provided training to cow/calf producers on the sequence of events during calving and when and how to provide assistance if the birth is not progressing normally. Additional topics covered varied by location with a similar goal to increase the number of live calves at weaning (e.g. cow nutrition, genetic selection and vaccine storage and handling). Information on improving calf health and survivability from a herd management perspective was emphasized at the school and in newsletters, radio programs and newspaper articles. Meetings in seven locations across Kansas recorded a total attendance of 611.</p> <p>Ninety-two percent of producers expected to increase the percentage of live calves at weaning. Attendees said that being able to visualize how to manipulate the calf to correct malpresentations and knowing when to provide assistance would have the greatest impact on their operations.</p>	

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		<p>Participants response on the day of the meeting:</p> <ul style="list-style-type: none"> • 96% reported an increase in knowledge, awareness or ability to manage issues regarding calving assistance • 87% expected to change when they assist • 94% expected to change how they provided assistance at calving 	
3.	Producer Education Enhances Crop Production	<p>Kansas planted an estimated 13.3 million acres of corn, soybean, and sorghum last year and produces the most bushels of these crops in the state. These crops primarily support feed resources for the livestock industry and ethanol production, which helps reduce dependence on foreign oil.</p> <p>The importance of these summer row crops to the rural Kansas economy underscores the need for educational activities to ensure that production in the widely adverse weather of Kansas is protected and profits can be enhanced.</p> <p>Eighteen in-depth winter corn, soybean, and sorghum schools were held in many locations across the state in order to address production issues. The programs focused on crop production research and were supported by the Kansas Corn, Kansas Soybean, and Kansas Sorghum Commissions and several industry partners.</p> <p>Several topics were presented by more than 15 Extension specialists and extension publications entitled <i>Kansas Corn Production 2019</i> (MF3208), <i>Kansas Soybean Management</i> (MF 3154), and <i>Kansas Sorghum Management 2019</i> (MF3046) were distributed.</p> <p>More than 1,165 people attended these schools and 88-90% of attendees indicated they the information received will influence their management decisions. This translates to approximately 1.1 million acres affected by this effort with an estimated economic benefit of \$9.8 million.</p>	
4.	Increasing Awareness of Financial Performance on Kansas Farms and Ranches	<p>Volatility in commodity and input prices make business planning in agriculture difficult. Having good information on which to base decisions is critical for producers to remain profitable and sustainable for the future. Education, training and assistance in keeping good records, and in the appropriate methods to analyze and use those records, provide the needed knowledge to make informed decisions.</p>	

2019 Annual Report of Accomplishments and Results (AREERA)

		<p>The goal of the Kansas Farm Management Association (KFMA) program is to provide each member with farm business and family financial information for improved farm business organization and decision making to minimize risk while increasing sustainability and profitability. Public availability of summary information from KFMA member farms can help to accomplish the same for many involved in agriculture, both in Kansas and around the country, in addition to the KFMA membership. Alongside the education and services of the KFMA program, the K-State Farm Analyst program works with farm families in financially difficult situations and in business transition to provide increased understanding of the financial implications of the situation and to help the farms in completing long-range planning and cash flow analysis of the situation.</p> <p>Specific activities in 2019 included: Over 6,900 face to face meetings with 2,411 producers (KFMA – 2,306; Farm Analyst – 105); 58 presentations to 1,750 individuals; 2,277 farm business analyses; 2,859 individual crop and livestock enterprise analyses; 6 radio interviews; numerous newsletter and newspaper articles; presentation to over 175 students in classes at KSU; a large number of hits to the KFMA Newsletter on website; and over 105 cash flow analyses with Finpack.</p> <p>Through one-on-one consultations, 2,411 Kansas producers have increased awareness of their current financial position and their financial performance during the past year. Of these producers, 2,277 have opportunity to benchmark their performance against other farms in their region; farms of similar type; as well as, the most economically profitable farms. This allows these producers to identify strengths and weakness in their operation and to take action to build on the strengths, and address the weaknesses, vastly increasing the operation’s sustainability and profitability for the future. Through enterprise analysis these operations have also identified those enterprises that are the most profitable and they understand their cost of production for each enterprise allowing them the opportunity to make informed marketing decisions when selling the products they produced. Additionally, at least 105 producers in poor financial condition, during a transition, or with family conflict, gained an improved understanding of how to address their situation based on actual records and realistic projections.</p>	
5.	ServSafe Food Safety Education Program	Foodborne illness is a common and costly—yet preventable—public health problem. The U.S. Centers for Disease Control and Prevention estimate that roughly one in six people in the U.S. (about 48 million) get sick, 128,000 are hospitalized and 3,000 die of foodborne illness each year. Most cases of foodborne	FOOD SAFETY (2)

		<p>illness can be prevented through proper hygiene practices, including hand washing and following proper food handling and preparation recommendations.</p> <p>K-State Research and Extension professionals in partnership with the Kansas Restaurant and Hospitality Association (KRHA) provided food safety training to foodservice outlets, schools and community organizations. The ServSafe® Food Safety Education program is a nationally recognized certification and training program. This program targets foodservice managers, entry-level food handlers, and community organizations who provide food to the public. In 2019 our efforts resulted in over 340 contact hours of food safety education. Extension agents and KRHA educators help deliver a wide variety of consumer, food handler and foodservice manager food safety education trainings. Whether instructing a restaurant owner, line cook, culinary arts student or church dinner volunteer, educators provide training and tools focusing on risk factors known to be the most important when it comes to preventing foodborne illness.</p> <p>In 2019, ServSafe® Food Safety Manager Classes reached 542 foodservice workers statewide. These 32 classes resulted in 429 foodservice employees receiving ServSafe® Food Protection Manager Certification. Also, in 2019, 25 ServSafe® Food Handler classes were held with 614 participants completing the class.</p> <p>Post-session surveys of 304 participants indicated that they had increased knowledge and skills of best food safety practices. Of the participants completing the post survey, 88% indicated they planned to use what they learned at work and/or at home. Participants reported they intended to wash their hands, check food temperatures and use food thermometers more often, and to be more cautious of cross contamination and food left out at room temperature.</p> <p>The value of food safety education and training programs is that Kansans are provided a safer dining environment, as well as the potential for fewer hospitalizations, reduced medical costs, and fewer days of work missed due to illness.</p>	
<p>6.</p>	<p>Value-Added Foods and Food Safety</p>	<p>The Value-Added Foods Program provides educational opportunities and technical support to food companies and entrepreneurs in the state along with personnel from regulatory agencies and students.</p>	

		<p>This past year, the staff responded to more than 1,000 requests from more than 150 food processors and start-up businesses, tested and generated ingredient labels and Nutrition Facts panels for more than 200 food products and trained 13 undergraduate students on food product development and food testing concepts.</p> <p>Faculty and staff provided education during 2019 in the following areas:</p> <ul style="list-style-type: none"> • Taught food processors concepts of “Food Safety Preventive Controls” to comply with the new Food Safety Modernization Act (FSMA) • Certified food processing personnel, and K-State students as “Process Control Qualified Individuals” (PCQI) as required by FSMA • Generated nutrition facts panels for Kansas food processors in the new format required by regulations. • As Process Authority, helped certify tens of canned Kansas food products to be legally produced and sold in the state and across state lines. <p>A conservative estimate of the dollar value of the services provided to Kansas companies and entrepreneurs in 2019 is \$1 million based on industry standards for the cost of such services. Additionally, the value to students involved in these activities is tremendous as evidenced by the job offers they got last year based in big part on their experiences with this program.</p>	
<p>7.</p>	<p>Food Safety Education and Outreach for Fruit and Vegetable Producers</p>	<p>The demand for locally produced fresh produce continues to grow in Kansas, and there are not enough fruit and vegetable farmers to meet that demand. There is a great need for technical expertise and education among aspiring, new, and existing fruit and vegetable producers. Many small-acreage produce growers are first-generation farmers with limited resources. Data from the ARMS survey analyzed by Jablonski et. al. (2018) shows that profitability increases with scale, and risk decreases with scale. So, given this information, our specialty crop farms are high risk, low profit, and yet there is an unmet demand for local food.</p> <p>Kansas horticulture agents partnered with Extension specialists and outside agencies to provide training for fruit and vegetable producers on topics relating to food safety, production practices, and risk management. These programs included the Growing Growers program in Kansas City and Wichita.</p> <p>More than 475 participants attended the 20 Growing Growers workshop held at the two locations. An average of 80% of workshop participants reported gaining</p>	

		<p>new knowledge from the workshops. Sixteen apprentices started the Growing Growers apprenticeship program and six graduated at the end of the season. Thirty-five existing farms served as apprentice host farms and tour locations for learning experiences.</p>	
8.	<p>Water Technology Farms: Commitment to Preserving Kansas Water Supplies</p>	<p>The Ogallala Aquifer is in decline. Many producers are seeking ways to extend the usable aquifer life and limit the economic impact of loss of aquifer pumping capacity. Several producers approached K-State Research and Extension and the Kansas Water Office to offer their farms to demonstrate the testing of the latest irrigation technologies. In 2016, three water technology farms were established, and by 2019 there were 15 across the state.</p> <p>Water technology farms are a three-year public-private partnership where irrigation technology is demonstrated, related research is conducted, and water conservation is supported. As demonstration areas were established further east of the Ogallala Aquifer, the focus shifted from new irrigation technologies to management techniques and cropping patterns implemented on a larger scale.</p> <p>Field days on each farm highlighted and assessed the performance of the innovative technologies and management practices with almost 400 producers attending each year. In addition to the field days, there have been tours on the farms throughout the year, representing the Kansas Legislature, national commodity groups, national and regional media correspondents, and a variety of international and local visitors. Invitations for researchers to speak at regional and national forums have also occurred.</p>	<p>NATURAL RESOURCES AND ENVIRONMENTAL MANAGEMENT (3)</p>
9.	<p>K-State Watershed Research and Implementation Partnership (WRIP) Program</p>	<p>The K-State Watershed Specialist program began in 2000, as a partnership with the Kansas Department of Health and Environment and other agricultural groups. To restore water quality in Kansas requires a fundamental change in behavior and practices toward the land and water.</p> <p>The goal of the K-State Watershed Specialist program is to reduce non-point source pollution from cropland and livestock sources with the priorities of restoration of impaired water resources; abatement of fecal coliform bacteria, atrazine and pesticides; reduced nutrients and sediment loads, protection of water resources; and implementation of farm/producer best management practices (BMPs).</p>	

		<p>The Watershed Specialist team provided a broad array of educational services in 2019. The participated in and/or facilitated 380 educational events reaching more than 11,000 Kansans in 2019. The specialists delivered over 85 presentations in addition to several news articles (3) and radio/tv interviews (421). Mailings were also sent out in two watersheds reaching thousands. Two hundred thirty-five (235) on-farm assessments and one-on one consultations took place with many resulting in BMP implementation.</p> <p>The Watershed Specialist team provided technical assistance in the implementation of 225 BMPs. This includes 25 livestock BMPs affecting nearly 4,390 animals on 1,607 acres; 193 cropland BMPs affecting roughly 23,270 acres and 7 streambank BMPs protecting 6,060 linear feet of streambank. In addition, landowners/producers committed to implementing 29 sediment BMPs on 5,837 cropland acres.</p> <p>In the last 10 years, this program has resulted in annual load reductions of</p> <ul style="list-style-type: none"> • 26,387 tons of sediment • 449,834 pounds of nitrogen • 177,626 pounds of phosphorus • 9,112 pounds applied atrazine 	
<p>10.</p>	<p>Dining with Diabetes Encourages Healthy Behaviors Related to Decreased Chronic Disease Risks</p>	<p>According to recent reports, over 10% of Kansans are affected by diabetes, an underlying and contributing cause of death in the state. The majority of those managing this chronic disease are low-income residents. Diabetes is an expensive disease costing an average of \$16,752 a year, per person, about \$9,601 of which is directly attributed to diabetes. Having access to affordable and researched-based education, on how to improve their health behaviors to manage their diabetes, is vital for this population.</p> <p><i>Dining with Diabetes</i>, a national Extension program, consisting of a series of four classes, includes sessions on nutrition education, healthy cooking demonstrations, simple physical activity routines, and tasting healthy foods. The classes are designed for people with diabetes and their family members, caregivers, and support persons. The program's focus is to help individuals learn strategies to lessen the health risks of diabetes. In 2019 there were 13 local units that delivered</p>	<p>HEALTH AND WELLNESS (4)</p>

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		<p>the program - four two-hour sessions with an option 5th session. The program reached 178 participants.</p> <p>All <i>Dining with Diabetes</i> participants were evaluated for their fruit and vegetable consumption and physical activity involvement on the first and last day of the program to assess changes in behavior. It was reported that, participants ate a variety of vegetables and fruits more than 4 days a week and increased the number of days they followed healthy behaviors. Such behaviors included exercising ≥ 20 minutes a day, an increase from 2.4 days to 3.6 days per week, and reading food labels prior to consuming a product, an increase from 2.9 days to 3.7 days per week.</p>	
<p>11.</p>	<p>Staying Active in Aging Improves Health and Well-Being</p>	<p>The Centers for Disease Control and Prevention’s physical activity recommendations call for strengthening activities that work all major muscle groups at least two days a week in addition to aerobic activities such as walking or swimming. A CDC health survey indicates that only 9.7 percent of Americans 65 and up meet those physical activity guidelines. Reasons include fear of injuring themselves, no experience with lifting weights, lack of access to a professional experienced with older populations, expense of fitness centers, and few community programs. The death rate from falling in the United States has increased by 30% from 2007 to 2016. Falling once doubles your chances of falling again.</p> <p>The nation’s elderly population, estimated at 43.1 million in 2012, will jump to 83.7 million in 2050 according to a 2014 U.S. Census Bureau report. In 2015, the total medical costs for falls totaled more than \$50 billion. Medicare and Medicaid shouldered 75% of these costs. In 2014, the total cost of falls among adults age 65 and older in Kansas was reported to be \$338 million with \$274 million being covered by Medicare or Medicaid.</p> <p>Stay Strong, Stay Healthy (SSSH) aims to provide older adults with access to a safe, structured and effective exercise program capable of building muscle and increasing bone density, thus decreasing frailty, osteoporosis and the risk of falls. The SSSH program is available in 43 local Extension units as an eight-week, 16-hour course which includes pre, post, and follow up participant surveys and pre and post assessments. In 2019, Extension Agents, who are certified instructors, provided sixty SSSH courses with 739 participants with 82% completion rate. Stay Strong Stay Healthy Level 1 and SSSH Level 2 instructor certification trainings, in</p>	

		<p>2019, resulted in 8 additional certified instructors at each level. Fifty-seven SSSH instructors maintain CPR first aid certification and participated in training updates to remain current.</p> <p>A representative sample of program graduates, responding to a 3 month follow up survey, reported the following:</p> <ul style="list-style-type: none"> • 61% met strength training recommendations and continue strength training routines • 66% met recommendations for stretching and continue stretching routines • Greater than 80% report strength and flexibility improvement • 75% indicated they sleep better • 96% feel overall health has improved <p>Participants also reported having a positive change in perceived ability to engage in physical activity, a significantly reduced fear of falling, and a significant increase in social engagement.</p>	
<p>12.</p>	<p>Preventing Overweight and Obesity Among Youth in Low-Income Racial/Ethnic Communities</p>	<p>Childhood obesity has nearly tripled over the past 30 years. There are significant racial and ethnic disparities in obesity prevalence among U.S. children and adolescents. In order to determine why the obesity rate is rising among youth, it is imperative to include youth, parents, teachers and other community members in determining the barriers to healthy eating and physical activity and in designing and implementing strategies to overcome these barriers.</p> <p>The goals of this project were to:</p> <ul style="list-style-type: none"> • Identify behavioral and environmental factors of overweight/obesity in the target population • Increase dietary fruit and vegetable consumption • Decrease solid fat and added sugar consumption • Increase physical activity • Assist communities in identifying factors that influence overweight and obesity in 6th- 8th grade youth <p>Communities in each state (Kansas, Ohio and South Dakota) planned and implemented regular and sustainable youth-inspired nutrition and physical activity programs that lead to school policy changes listed below. The changes were focused on increasing opportunities to consume fruits and vegetables, water and</p>	

		<p>whole grains while providing an education component to emphasize nutrition and physical activity messages. 6th – 8th grade youth in selected low-income racial/ethnic communities were selected for this study.</p> <p>Changes included:</p> <ul style="list-style-type: none"> • Delayed start of the school day by 10 minutes to allow more time for youth to eat breakfast. • Initiated snack programs that included “Grab and Go’s” to provide healthy snacks in between morning classes and after school snacks for students involved in extracurricular activities. • Extended the school lunch period from 20 minutes to 45 minutes. • Initiated walking programs that allowed students to be able to play or walk in the gym before school started and opening the school track for community use by partnering with police officers to ensure safety • Periodically integrating three, 30-minute session (90 minutes total) of physical activity into the school day to educate students on the relationship between physical activity and healthful eating, or weekly integrating 20 minutes of physical activity and nutrition activities to reinforce health messages and behavior. <p>Results reported from this project include:</p> <ul style="list-style-type: none"> • Increased family engagement in activities and learning about nutrition in the home • Youth ate more and a greater variety of fruits and vegetables • Decreased vending machine sales at school; drinking less soda; more water • Increased in youth participation in school athletics; exposure to new activities • Increased in youth participation in nutrition and physical activity events and programs in school and community • Increased youth leadership in school; improved sense of community and increased community relations <p>The benefit of the study is that the information will be used to help nutrition educators understand the nutrition and physical activity behavior, knowledge and attitudes of the low-income racial/ethnic adolescent population; thus, leading to the development of culturally and socially appropriate adolescent obesity prevention programs.</p>	
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<p>13.</p>	<p>Changing the Future of Communities One Grant at a Time</p>	<p>Nonprofits, educational and government organizations struggle to find the resources they need to fund priority projects. According to The Foundation Center, foundation dollars available for all subjects in Kansas increased 462% from 2009 to 2015. Grant writing workshops were created to help communities and funders with the same priorities find each other to create change. Individuals and organizations in every Kansas community want to make a difference; when they come together in grant writing workshops, they discover shared goals and untapped resources to make miracles happen.</p> <p>From November 2016 to October 2019 local agents hosted 44 grant writing workshops in all four quadrants of the state to 1,258 people.</p> <p>Participants learn about new sources of data to document their community’s need, sources of grant funding, how to develop a grant budget and how to evaluate and report their success. By working together in groups, they gain new support networks, lose their fear about asking for money and get feedback to sharpen their skills. Fifty percent of grant workshop participants had never written a grant before; 29% had written local grants, 14% had written federal grants, 7% identified as “other experience.” In 2020, 27 workshops are scheduled.</p> <p>Participants at grant workshops reported:</p> <ul style="list-style-type: none"> • 95% have greater confidence to write a successful grant • 99% learned new sources of data to document community need • 99% learned new sources for finding grants • 93% have greater confidence to evaluate and measure their grant success • 89% gained confidence at writing a grant budget <p>Of the participants who responded to the survey 6-12 months after their grant workshop (32% response), \$10.8 million of grants were written with \$6.2 million of successful grants (57% success) to fund leadership, education, prevention, emergency assistance to low income families and non-profits, art programs and exhibits, health and nutrition programming, culture of health, parenting classes, rent assistance, park improvements and recovery classes.</p>	<p>HEALTHY COMMUNITIES: YOUTH, ADULTS AND FAMILIES (5)</p>

<p>14.</p>	<p>Financial Knowledge and Skills for Sound Financial Decisions - Senior Health Insurance Counseling for Kansas (SHICK)</p>	<p>Health insurance choices affect all Kansans. Every day 10,000 Americans become Medicare eligible. Many do not understand health insurance or Medicare. Insufficient or inaccurate information can lead to late enrollment penalties, gaps in coverage, strained finances, and delayed health care treatment for those who are newly eligible for Medicare. For all Medicare beneficiaries, and particularly for those living near or below the poverty level, making sound financial decisions related to health insurance can alleviate stress. It can also free up income to meet other goals, improve health outcomes, and support community vitality when that money stays in the local area.</p> <p>Health insurance education is provided via telephone and one-one-one in-person sessions in local Extension offices and at events, in addition to public education presentations presented all over the state.</p> <p>Face-to-face delivery methods are especially important for the significant number of Medicare beneficiaries with cognitive illness or other chronic conditions that make it more difficult to process the complicated information. Agents who provide SHICK Counseling provide assistance with fraud and abuse issues, billing problems, appeal rights, and enrollment in low-income protection programs. Nationally, 29% of enrollees are vulnerable beneficiaries with incomes below 150% of the federal poverty level, who qualify for financial assistance. Many of those who qualify do not know that help is available until screened by a counselor who can help them apply for the programs.</p> <p>During the 2018-2019 program year, K-State Research and Extension professionals in 27 local units covering 42 Kansas counties provided health insurance education, in both one-on-one and group-settings, for soon-to-be eligible, newly eligible, and long-time Medicare beneficiaries. In addition to learning how to navigate the Medicare maze, beneficiaries are educated about the availability of the low-income subsidy and the Medicare Savings program as well as other resources available in their communities. This opens the door to services such as the supplemental nutrition program, utility assistance, food pantry, and food commodity program.</p> <p>During the fall 2018 open enrollment period, K-State Research and Extension educated 8,526 Kansans through the process of Medicare plan comparisons and explanation of benefits covered. Participants who completed plan comparisons and changed prescription drug or Medicare advantage plans to a plan that better</p>	
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		met their needs saved a total of \$6,078,410.	
15.	<p>Progressive Community Vitality Processes</p>	<p>Kansas communities struggle to remain vital. K-State Research and Extension created a comprehensive approach to help communities help themselves to preserve, create and improve their future. Educational programs address needs assessment and prioritization, goal setting, project development, citizen engagement, capacity building, evaluation and documentation of impacts. Communities can participate at their level of readiness and comfort. These programs include:</p> <p>First Impressions assists communities in determining their strengths and weaknesses. In 2019, 24 communities participated in First Impressions involving a total of 861 community residents. The immediate impacts of First Impressions are the call to action and engagement of community volunteers; the development of improved communication between residents and community organizations; and the increased awareness of community attributes.</p> <p>As a result of participating in First Impressions, 12 communities enrolled in the Kansas PRIDE program receiving the benefits of the planning and action processes resulting in the successful projects being carried out. https://www.ksre.k-state.edu/community/civic-engagement/first-impressions/index.html</p> <p>Kansas PRIDE communities are encouraged to assess their needs, set goals, implement plans, evaluate the impact and celebrate. In 2019, 75 PRIDE communities were involved in 1,181 projects at the local level. PRIDE communities reported that 244 of these projects engaged youth. Of the projects reported, 660 projects were ongoing, 136 projects were new, and 385 projects were completed.</p> <p>PRIDE Communities were involved in 643 partnerships at the local level and volunteers donated 79,353 volunteer hours for a value of \$1,852,892.50 as calculated using the Independent Sector Calculator for Volunteer Time.</p> <p>The Board Leadership Series helps train new and current community leaders in the areas of board roles and responsibilities, how to handle funds, conflict management and strategic planning.</p> <p>Prior to attending, only half of participants felt they understood the importance of organizational goals to help move them into the future through strategic planning. That number increased to over 93% as a result of participating in the training.</p>	

		<p>Additional substantial increases in knowledge and confidence in the areas of conflict of interest, legal and ethical issues, effective meetings and the meeting process were also indicated.</p> <p>Evaluation data showed that after the training, 98% of participants felt prepared to serve as a more effective board member. Attendee’s understanding of generational assets that are of benefit to their boards increased from 51% before attending the sessions to 89.4% after, and over 70% improved their knowledge of conflict management. https://www.ksre.k-state.edu/community/civic-engagement/boards-commissions.html</p> <p>Grant Writing helped address funding sources for community initiatives to increase confidence in grant writing and develop new research methods for finding grants. In 2019, 26 workshops were held with 749 participants.</p> <p>Evaluation data showed that after attending the workshops:</p> <ul style="list-style-type: none"> • 95% have greater confidence to write a successful grant. • 99% learned new sources of data to document community need • 99% learned new sources for finding grants. • 93% have greater confidence to evaluate and measure their grant success. • 89% gained confidence at writing a grant budget. <p>Of the participants who responded to the survey 6-12 months after their grant workshop (32% response), \$11.9 million of grants were written with \$6.7 million of successful grants (56% success). https://www.ksre.k-state.edu/community/civic-engagement/grantwriting.html</p> <p>Ripple Effects Mapping has been successful in helping to tell the story of a project and creating excitement among participants to start on a new or another phase of a current project. Since 2018, 10 communities have benefitted from Ripple Effects Mapping.</p> <p>Partnerships: External funding has led to partnerships with the Kansas Masons and the Hansen Foundation in Northwest Kansas.</p> <p>The Mason’s partnership has led to program and community capacity building through staff and local grants to communities, respectively. The Hansen partnership has allowed communities in Northwest Kansas to benefit from an internship program where college students can apply for real life experience in</p>	
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<p>16.</p>	<p>Youth Development 4-H Ag Innovators Experience</p>	<p>Kansas agriculture accounts for 45% of the state’s local economy and employs 13% of the state’s workforce. Youth need to be challenged to have a basic understanding of food production, agriculture and STEM. The 4-H Ag Innovators Experience (AIE), a collaboration with National 4-H Council and Bayer, challenged young people to apply critical thinking and STEM skills to a real-world agriculture challenge</p> <p>Three teens and two adult volunteers attended an intensive national training on this year’s <i>Native Bee</i> challenge at Iowa State University. Using the train-the-trainer model, these three teens then trained the additional 17 members of the AIE leadership team. That team of twenty teens taught the Native Bee challenge, an educational activity focusing on the importance of pollination to agriculture and its connection to a sustainable food supply, specifically as it related to native bees. The challenge helped introduce 1,373 youth to native bees as important pollinators, exploring their relationship to agriculture and the food we eat.</p> <p>Teens also reached out to community groups and participants at Kansas State University’s Open House. The AIE program was showcased with a career exploration experience for teen leaders at the Kansas City Bayer Crop Science Center. Teens learned about research being done at Bayer and careers in crop science.</p> <p>After serving on the leadership team and teaching 1,373 youth using the <i>Native Bee Challenge</i>: (13 teens responded)</p> <ul style="list-style-type: none"> • 77% answered yes, “At 4-H, did you learn new things about science.” • 69% answered yes, “At 4-H, we talk about how science can be used to solve everyday problems.” • 100% answered yes, “Have you shared a science related project with others.” • 100% answered yes or usually, “Do you feel a responsibility to help your community.” • 100% answered a lot, “How much has 4-H inspired you to volunteer in your community.” • 83% answered I strongly agree or agree, “I would like a job that uses science.” 	

		<p>After completing the <i>Native Bee Challenge</i>: (1,373 youth participants surveyed)</p> <ul style="list-style-type: none"> • 79% answered yes, “I understand that protecting pollinators and increasing their habitats is important to our food supply.” • 62% answered yes, “I think it was important to work in a group to complete the challenge.” • 54% answered yes, “My teammates and I used good communication to complete the challenge.” • 55% answered yes, “I have a better understanding of how science and engineering help solve real life problems.” • 39% answered yes, “I am more interested in science and agriculture.” 	
<p>17.</p>	<p>4-H Youth Development Military Partnerships</p>	<p>Kansas 4-H Youth Development has strengthened partnerships with Fort Riley Army installation and McConnell Air Force base.</p> <p>The partnerships were created to provide predictable, quality youth programs along with support of educators working in Child and Youth Programs through 4-H Positive Youth Development training, curricula, and resources.</p> <p>Since 4-H is located in every county, parish and borough in every state and territory, it allows for easy access to resources, professional development, and support for military 4-H Clubs and Child and Youth Programs wherever a family is located. As military families move frequently and experience the difficulties surrounding deployment and reintegration, 4-H provides predictable programming and a safe, nurturing environment for military connected children and youth to excel.</p> <p>At both Fort Riley and McConnell, Extension staff worked to support 4-H club programming and experiences for the youth participating in after-school and summer programs. Some of these experiences include project clubs where youth focus on a specific 4-H project for six weeks. Projects include Foods and Nutrition, Photography, Computers, Robotics, and more. The project experiences also include development of leadership skills and community service components that help youth to develop concern and caring for their community. Other opportunities for military 4-H members included a military 4-H Club Day at McConnell and a project showcase opportunity at Fort Riley.</p>	

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		<p>Extension staff also worked to provide positive youth development training for military after-school program staff. Training reached around 155 contacts through the multiple sessions that were conducted at each installation. Training subjects included positive youth development (essential elements, life skills, experiential learning, etc.), STEM and coding, diversity, project planning, curriculum, and more. The trainings always include hands-on activities to help staff retain concepts and put them into practice.</p>	
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