2015 Kansas State University Combined Research and Extension Plan of Work

Status: Accepted

Date Accepted: 06/04/2014

I. Plan Overview

1. Brief Summary about Plan Of Work

The motto of K-State Research and Extension is Knowledge for Life. This is a great motto for a land-grant university, such as Kansas State University. It means developing new knowledge and empowering people with that knowledge, whether they are our youth and 4-H clubs or our senior citizens. In order to accomplish this, K-State Research and Extension is focusing its efforts on five planned programs: Global Food Security and Hunger; Food Safety; Natural Resources and Environmental Management; Childhood Obesity: Healthy Eating and Physical Activity through the Lifespan; and Healthy Communities: Youth, Adults, and Families. Two previous planned programs, Sustainable Energy and Climate Change, have been integrated into Natural Resources and Environmental Management and Global Food Security and Hunger.

We cannot be everything to everyone; therefore, we have to focus on serving the highest priorities. Obviously, this also requires that we have the breadth to address other issues. Whether we develop the knowledge within K-State Research and Extension or work with another land-grant university or an industry partner to develop that knowledge, we must disseminate that knowledge on the K-State campus and the informal classrooms in all 105 counties across the state of Kansas. A unique feature within the K-State Research and Extension organization is the close alignment of research and extension. In 1996, K-State Research and Extension (KSRE) was formed by aligning the Kansas Agricultural Experiment Station and the Kansas Cooperative Extension Service. The strategic intent of this alignment was to achieve greater efficiency and synergy between discovery and outreach efforts.

Within the planned programs, each of seven strategic opportunities identifies a broad issue that is being addressed, the research foundation associated with it, and changes that will be measured over time. The strategic opportunities define areas of emphasis for agents, specialists, and researchers. Planned programs are mostly state supported and through grant funds, also extensively reported through CRIS and the granting agencies.

Estimated Number of Professional FTEs/SYs total in the State.

Year	Extension		Research	
	1862	1890	1862	1890
2015	422.0	0.0	266.0	0.0
2016	422.0	0.0	266.0	0.0
2017	422.0	0.0	266.0	0.0
2018	422.0	0.0	266.0	0.0
2019	422.0	0.0	266.0	0.0

II. Merit Review Process

1. The Merit Review Process that will be Employed during the 5-Year POW Cycle

- Internal University Panel
- Combined External and Internal University Panel
- Expert Peer Review

2. Brief Explanation

Scientific peer review and merit review of all K-State Research and Extension Action Plan proposals will be accomplished by experts with scientific knowledge and technical skills to evaluate the quality and relevance to program goals. This includes projects funded by Hatch Multistate Research Funds, Hatch Funds, Smith-Lever, and state appropriated funds. The Associate Director of Research and/or the Associate Director of Extension select three peer reviewers on campus for specific proposals in consultation with department heads to identify reviewers with appropriate expertise. The plans are also reviewed by a panel of department heads, the associate directors of research and extension, assistant directors (Ag and Natural Resources, 4-H and Youth programs, Family and Consumer Sciences), as well as area directors. The agreement and acceptance within the team and the review by unit leaders and administrators, as well as peer reviewers assures that action plans adequately and appropriately address the issues. Several representative stakeholders will be invited to participate in the annual team meetings as well. The review asks for an evaluation of the following points: overall appropriateness to K-State Research and Extension core mission themes and long-term intended outcomes; the investigators' grasp of the literature including a review of the most significant published work in the field; and a description of the current status of science in the area of the proposal. Also, do the objectives show a specific relationship to the improvement of Kansas agriculture and societal issues? Does the description of the project identify in non-technical language the methods or actions to be utilized in carrying out the proposed project? Do the methods relate to accomplishing each stated objective and are the methods stated clearly? A recommendation of approval or disapproval should be included in the review. A form is used to guide reviewers through the peer review process. This process continues in 2015.

III. Evaluation of Multis & Joint Activities

1. How will the planned programs address the critical issues of strategic importance, including those identified by the stakeholders?

The programs and research activities that are planned represent the culmination of an extensive process of incorporating stakeholder input. Additionally, the planning process involved through vetting against extension and research priorities reported from USDA, NIFA, and ARS as well as through commodity-based organizations. Faculty groups interact continually with external groups of agencies, organizations, and citizens to gain stakeholder feedback that has helped these efforts in terms of relevance, support, and understanding. All of this input has been utilized to focus the upcoming five year plan for K-State Research and Extension.

2. How will the planned programs address the needs of under-served and under-represented populations of the State(s)?

One area for addressing the needs of the under-served/under-represented is through the ServSafe Starter Food Handler classes where 28% of the participants are self-reported

Hispanic, Black/African American, or other minority group, up from 14% last year.

An emerging and growing effort within K-State Research and Extension is a summer research program specifically targeting under-represented populations of students to establish networking relationships back to their respective home institutions. Although the undergraduate institutions of these students have not exclusively been from 1890 Land Grants, those institutions have heavily dominated the applicant pool to date. This program places these students in a laboratory or field setting with a K-State Research and Extension scientist to work on a very focused set of research goals that can be accomplished in the eight-week program. This program has a specific goal of growing the minority populations of students within graduate programs in the College of Agriculture and across other partner Colleges represented within K-State Research and Extension. These programs are funded in part by funds originating in the Kansas Agricultural Experiment Station and College of Agriculture Dean's Office and they are designed ultimately to grow the representation of these students in academic and industry fields to diversify the workforce in areas traditionally dominated by majority races and genders. The Assistant Dean for Diversity is very active nationally in recruiting students to our program.

Additional activities that continue were reported in the previous Plan of Work. In brief, K-State Research and Extension continues to be involved in programs addressing the needs of economically disadvantaged agricultural producers, youths, families, and communities and provide knowledge, skills, and practices where needs are great. These include programs targeting military families; Latino and other Spanish-speaking residents, primarily in Wyandotte County; and the Family Nutrition Program (FNP) that targets low income and ethnically diverse populations.

There is no formal working arrangement between Haskell Indian Nations University and KSRE at this point. We have been told that because of their continuous transition with administration, they are "not ready" for our interaction. We do have an Extension Forester who has worked with Haskell faculty for many years. The Heartland Watershed Management Education team includes members from Iowa, Kansas, Missouri, and Nebraska. This regional team co-sponsored a workshop, How to Build a Watershed Tabletop Model, with Haskell Indian Nations University on their site.

3. How will the planned programs describe the expected outcomes and impacts?

The planning process for K-State Research and Extension is ongoing. Within our five planned programs, the plan currently includes seven strategic opportunities. Those opportunities are as follows: Sustain Profitable Agricultural Production Systems; Prepare People in Kansas to Thrive in a Global Society and All Aspects of Life; Ensure an Abundant and Safe Food Supply for All; Enhance Effective Decision-making Regarding Environmental Stewardship; Identify Pathways for Efficient and Sustainable Energy Use, Assist Communities in Becoming Sustainable and Resilient to the Uncertainties of Economics, Weather, Health, and Security; and Create Opportunities and Support People in Kansas to Improve Their Physical, Mental, and Emotional Health and Well-Being. Detailed intended outcomes and strategies for implementation and evaluation are being developed by Program Focus Teams.

4. How will the planned programs result in improved program effectiveness and/or

K-State Research and Extension supports a diverse portfolio of research and extension programming efforts. These programs cross broad discipline areas and include on-campus faculty that represent five academic colleges. For this reason, there is obvious need for program planning to help avoid mission drift away from programs that are more central to key programs impacting economic drivers and the lives of citizens of the state of Kansas. Therefore, it is expected that the planned programs will continue to foster focus on the most critical issues. In most programs, the results of extension education provide guidance to the research agenda and extension education develops as a result of research findings. Extension

activities with the public will identify areas of knowledge that lack research information. This void of research information is utilized by researchers to guide future investigations. Focusing on the highest priorities and using feedback from previous planned programs allows us to engage in continuous improvement in terms of effectiveness and efficiency.

IV. Stakeholder Input

1. Actions taken to seek stakeholder input that encourages their participation

- Survey of traditional stakeholder groups
- Survey of selected individuals from the general public
- Other (Survey of underserved, minority groups)

Brief explanation.

In 2009, K-State Research and Extension underwent identification of the strategic opportunities for our combined research and extension initiatives for the coming year. A team worked to put together a series of strategic statements. Those statements were distributed in a survey form to our stakeholders across Kansas using the local Extension unit network. Surveys were returned and a hierarchy of feedback has resulted in ongoing work toward identifying the key research and extension program initiatives that align well with the priorities indicated with the survey. Budget resources will follow those priorities.

2(A). A brief statement of the process that will be used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Method to identify individuals and groups

- Use Advisory Committees
- Use Surveys

Brief explanation.

Stakeholder input will come through external advisory councils, elected officials, strategic planning, and program review processes. At the local level, the Kansas Cooperative Extension Service law dictates election of local advisories and an executive board in each of our 105 counties. This amounts to publicly electing 2,520 individuals across the state. Of those, 945 are further elected to executive boards and are required by law to oversee the program, staff, and budget of our local Extension units across Kansas. On a regional level, our research and extension centers make use of advisory committees composed of stakeholder leadership and clientele from the local area. During the year we also meet informally with a large number of diverse organizations to discuss collaborative efforts, consider sharing of resources, review prioritization process, assess progress reports and realized outcomes, and to design complementary educational efforts. Feedback examples include commodity commissions (e.g., deliberations that help prioritize the awarding of producer-funded extramural grants involving check-off dollars) and helping citizens to understand options associated with regulatory decisions made by the EPA, Kansas Department of Health and Environment, Kansas Department of Agriculture, and other groups.

2(B). A brief statement of the process that will be used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder individuals
- Survey specifically with non-traditional individuals
- Survey of selected individuals from the general public

Brief explanation.

Early in 2009, a survey was completed with the program development committee members across the state (2500 stakeholders). We asked these stakeholders to reflect on their input through a cross-section of the demographics of their respective communities. An annual survey of family and consumer sciences program interests is conducted with specific instruction to take the surveys to individuals who do represent the diverse demographics of the local communities. Extension agents invite broader stakeholder groups into planning sessions to establish local issues, needs, and program priorities.

3. A statement of how the input will be considered

- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Action Plans
- To Set Priorities

Brief explanation.

The purpose of the planning process toward an identified set of strategic opportunities for research and extension was to identify and give attention to these initiatives to assure a relevant, sustainable, quality Extension Service in Kansas for the future. The stakeholder input process is a comprehensive effort to focus on critical issues and problems needing research and seek answers that fit well within our defined mission priorities. This input continues throughout planning, project implementation, and program delivery.

V. Planned Program Table of Content

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Global Food Security and Hunger

2. Brief summary about Planned Program

Interest in and commitment to finding solutions for global food security and hunger continues to guide K-State Research and Extension to: Develop animal and crop production systems that thrive in the variable conditions of the Great Plains; develop horticulture, forestry, and alternative green enterprises that thrive in the variable conditions of the Great Plains; advance new and improved systems of agricultural production that meet the needs of producers and consumers; enhance the value of agricultural products; improve access to high quality foods, especially for consumers with limited resources, and increase food variety and value by developing new and enhanced food products.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
201	Plant Genome, Genetics, and Genetic Mechanisms	5%		10%	
205	Plant Management Systems	28%		14%	
216	Integrated Pest Management Systems	5%		10%	
307	Animal Management Systems	36%		19%	
311	Animal Diseases	0%		24%	
501	New and Improved Food Processing Technologies	2%		2%	
502	New and Improved Food Products	0%		1%	
511	New and Improved Non-Food Products and Processes	2%		1%	
601	Economics of Agricultural Production and Farm Management	19%		14%	
603	Market Economics	1%		0%	
606	International Trade and Development	0%		5%	
703	Nutrition Education and Behavior	1%		0%	
704	Nutrition and Hunger in the Population	1%		0%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

• Agriculture plays a very significant role in the Kansas economy. Of the total cash receipts from agriculture in recent years, approximately two-thirds of those receipts were derived from livestock and their associated products. The state ranks third in number of cattle on feed, number of cattle processed, and total beef production; ninth in hogs on farms, 10th in market sheep and lambs, 18th in milk produced and in sheep and lambs on farms, and 19th in meat and other goats. Kansas has one of the fastest growing dairy industries in the nation (60% production increase since 1998) with new annual product sales that exceed $80 million. Producing 450,000,000 pounds of pork, (1.65 million head), Kansas ranks 9th in state swine production with 310 operations producing 95% of the state's pork.• Kansas farmers produce approximately 22 million acres of wheat, corn, grain sorghum, soybeans, sunflowers, and alfalfa each year, generating about $3 billion of revenue. Flour milling and livestock production have traditionally multiplied the value of crops produced. Recent construction of fuel ethanol plants in many communities has also added to that multiplier. In addition, perennial forage resources in Kansas consist of about 17 million acres of rangeland and 2.3 million acres of tame pasture. The diverse and often harsh Kansas environment presents a series of challenging, high risk decisions for those producing grain and forage crops and managing range and pasture land. • Kansas also has a diverse and growing horticultural industry composed of turf grasses (golf courses, lawns, and roadways), floral crops, ornamentals, nursery

businesses and fruit, nut, and vegetable production. More than 788,000 acres in Kansas are involved in horticulture activities, more than double the acres reported in 2000. The value of all horticultural products in the state continues to increase and presently exceeds $1 billion annually. • The Bioprocessing and Industrial Value Added Program (BIVAP) facility provides a means for research and incubation of novel product industry. The industrial value-added product group develops and improves technologies that utilize agricultural raw materials available in Kansas to produce higher value products. The fiber and textile program focuses on the development of industrial value-added materials and products made from natural and manufactured fibers that are essential to human health, safety and comfort, and contribute to local and national economies.

Current data on household food insecurity and hunger across the U.S. and Kansas show that, while national levels of food insecurity and hunger did not change significantly in 2007, food insecurity rates in Kansas continued to rise. Rates of household food insecurity in Kansas in 2005-2007 (a period of economic growth) were 2% higher than national rates.

Access to high-quality local foods has been determined to positively affect consumers' diets, particularly the intake of fresh fruits and vegetables in young families and seniors with limited resources. Though Kansas enjoys nearly 100 farmers markets statewide, fewer than 10 support even one program or effort designed as food aid measures (i.e., WIC, electronic benefit transfers, or the Senior Farmers Market Nutrition Program). High quality foods may be accessible to many Kansans, but are less likely available to those with limited resources.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Profitability is critical for long-term business survival; however, because agriculture is so dynamic (e.g., markets, technology, policy) producers need to constantly evaluate what enterprises and productions systems are the most profitable. In addition, agriculture is very capital intensive and producers need to identify the most efficient ways to access capital (e.g., lease versus buy land, own machinery versus custom hire).

2. Ultimate goal(s) of this Program

Sustainable Profitable Agricultural Production Systems
An Abundant Food Supply for All

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2015	98.0	0.0	131.0	0.0
2016	98.0	0.0	131.0	0.0
2017	98.0	0.0	131.0	0.0
2018	98.0	0.0	131.0	0.0
2019	98.0	0.0	131.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Sustain Profitable Agricultural Production Systems--
• Develop animal and crop production systems that thrive in the variable conditions of the Great Plains.
• Develop horticulture, forestry, and alternative green enterprises that thrive in the variable conditions of the Great Plains.
• Advance new and improved systems of agricultural production to meet the need of producers and consumers.
• Enhance the value of agricultural products.

Ensure an Abundant Food Supply for All--
• Improve access to high quality foods, especially for consumers with limited resources.
• Increase food variety and value by developing new and enhanced food products.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Workshop	● Newsletters
● One-on-One Intervention	● Web sites other than eXtension
● Demonstrations	● Other 1 (Extension publications)
● Other 1 (Field Days, Tours)	● Other 2 (Research publications)
● Other 2 (Proprietary tech dev & licensing)	

3. Description of targeted audience

Farm and ranch managers; agricultural producers and agribusinesses throughout the food industry supply chain with emphasis on producers who want to help themselves; people who influence producers and producer decisions, including educators (veterinarians, media, industry organizations, packers/purchasers); government agencies/ regulators; the lending industry; and policy makers.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of individuals participating in programs
- Number of new/improved varieties, inbreds, germplasm developed and released
- Number of educational events (e.g., meetings, demonstrations, field days, press releases, and distributed publications) delivered
- Number of producers engaged in one-on-one consultations through Kansas Farm Management Association or Farm Analyst programs
- Number of presentations at national and international conferences
- Number of research papers cited above a threshold (10)--indicative of high impact
- Number of research grants received in excess of $50,000.
- Number of soil samples evaluated on Kansas crop acreage
- Number of hours reported annually by Master Gardener volunteers

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Livestock producers demonstrate best management practices (BMPs) in regard to management and production, including genetic selection, reproduction, nutrition, health, animal care and well-being, livestock safety and quality, environmental management, and optimal marketing strategies (Measured by number of producers adopting BMPs)
2	Kansas farmers and ranchers increase awareness of financial performance (based on number members reported by farm management association)
3	Kansas farmers experience higher yields, more stable yields and/or a higher value of their crop as a result of plant breeders development of new varieties or germplasm (Measured by number of acres planted to KAES-developed materials or materials derived from KSU varieties, inbreds, or germplasm)
4	Kansas farmers increase crop acres using soil testing as a basis for nutrient applications (measured by reported crop acres)
5	Cow/calf producers lower cow feed supplement costs through use of BRaNDS software to make informed, cost-effective purchase decisions (measured by number of participating producers)
6	Improved sustainability of Kansas farms and ranches through membership in the Kansas Farm Management Association program and through assistance received through the K-State Farm Analyst program (Measured by number of members and number receiving assistance through KFMA and Farm Analyst program)
7	Public value communicated by Master Gardener volunteers (measured by number of hours and activities reported annually)
8	Increase food variety and value by developing new and enhanced food products (Measured by number of new products developed)
9	Improve access to high quality food, especially for consumers with limited resources (measured by improvement in food budgeting)

Outcome # 1

1. Outcome Target

Livestock producers demonstrate best management practices (BMPs) in regard to management and production, including genetic selection, reproduction, nutrition, health, animal care and well-being, livestock safety and quality, environmental management, and optimal marketing strategies (Measured by number of producers adopting BMPs)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems
- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Kansas farmers and ranchers increase awareness of financial performance (based on number members reported by farm management association)

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Kansas farmers experience higher yields, more stable yields and/or a higher value of their crop as a result of plant breeders development of new varieties or germplasm (Measured by number of acres planted to KAES-developed materials or materials derived from KSU varieties, inbreds, or germplasm)

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms

4. Associated Institute Type(s)

- 1862 Research

Outcome # 4

1. Outcome Target

Kansas farmers increase crop acres using soil testing as a basis for nutrient applications (measured by reported crop acres)

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

Cow/calf producers lower cow feed supplement costs through use of BRaNDS software to make informed, cost-effective purchase decisions (measured by number of participating producers)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems
- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 6

1. Outcome Target

Improved sustainability of Kansas farms and ranches through membership in the Kansas Farm Management Association program and through assistance received through the K-State Farm Analyst program (Measured by number of members and number receiving assistance through KFMA and Farm

Analyst program)

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 7

1. Outcome Target

Public value communicated by Master Gardener volunteers (measured by number of hours and activities reported annually)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 8

1. Outcome Target

Increase food variety and value by developing new and enhanced food products (Measured by number of new products developed)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 603 - Market Economics

4. Associated Institute Type(s)

- 1862 Research

Outcome # 9

1. Outcome Target

Improve access to high quality food, especially for consumers with limited resources (measured by improvement in food budgeting)

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Other (Technological change)

Description

From past experience, any or all of these factors can significantly impact outcomes of this planned program.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

A combination of the planned studies will provide the most useful and comprehensive results. Program Focus Teams (PFTs), with the help of staff from the Office of Educational Innovation and Evaluation (OEIE), are developing evaluation tools to use with each Action Plan/Logic Model. As one example, three levels of outcome evaluation (short, medium, and long-term) were developed for the Field Management in Field Crops program. Following is the format for third in the series evaluation of long-term outcomes:

EVALUATION 3 (Long Term) **Weed Management in Field Crops**

Please select the answers which apply to your situation. Your responses will be used to evaluate program implementation and assist the instructor(s) to make improvements in the design of this course.

1. Tillage
   1. A. Tillage practices have increased
   2. B. Tillage practices have not changed
   3. C. Tillage practices have declined
   4. D. Other (please explain)_____

1. Has your crop rotation changed in the last 5 years? How?

1. What best describes your crop rotation?
   1. Annual rotation of crops
   2. Use continuous cropping, plant the same crop for multiple years in a row
   3. Plant Wheat/a summercrop/fallow
   4. Plant a Crop/fallow
   5. Other _____

1. What best describes your current herbicide program?
   1. Rotate herbicides more frequently than before
   2. Tank mix herbicides with different modes of action
   3. Use glyphosate alone
   4. Use preemergence soil applied herbicides
   5. Have not changed my herbicide practices
   6. other (please list)_____

1. How have herbicide resistant weeds affected your weed management practices?
   1. Have changed weed control practices because of resistant weeds
   2. Resistant weeds are not a problem
   3. I have resistant weeds but have not changed my practices
   4. I have changed my crop selection because of resistant weeds
   5. Other (please list)_____

1. KSU weed management programs have contributed $____ dollars/acre to profitability

1. KSU weed management programs have helped me continue to farm successfully. Yes or No
   8. Environmental considerations are a component of my decision making? Yes or No

Another example is the **Extension Beef Program**.

Medium Term Evaluation Questions

What changes have participants made in use of feed ingredients, forages, supplementation strategies, growth technologies or feeding systems?

What changes have participants made to improve reproductive efficiency?

What changes have participants made to improve animal health and capture value from minimal health risk animals?

What changes have participants made to improve marketing practices?

Do participants have appropriate cost of production information to make management decisions?

Have participants improved employee performance, retention or job satisfaction?

Long Term Evaluation Questions

Do Kansas producers operate efficient and sustainable beef cattle production systems?

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Food Safety

2. Brief summary about Planned Program

Concern about ensuring a safe food supply continues to guide K-State Research and Extension (KSRE) to develop programs that: Enhance the safety of our food supply by reducing or eliminating hazards from food production to consumption; and improve protection and defense strategies to safeguard the food supply.

KSRE has a rich history of working with pre-harvest (animal and plant production) and post-harvest (food microbiology and toxicology) issues that impact food safety. Many of the pre- and post-harvest food safety issues can impact human health, whereas others may impact our agricultural infrastructure, food supply, and economy. Food safety research, teaching, and extension efforts have put K-State Research and Extension in a strong position to address this new era of food safety.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
702	Requirements and Function of Nutrients and Other Food Components	15%		15%	
703	Nutrition Education and Behavior	30%		20%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	15%		15%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	30%		30%	
723	Hazards to Human Health and Safety	0%		10%	
724	Healthy Lifestyle	10%		0%	
802	Human Development and Family Well-Being	0%		10%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Public awareness of food safety has been increasing due to recent nationwide outbreaks and attention given to the outbreaks of Salmonella Typhimurium in peanuts/peanut butter and E. coli 0157:H7 associated with fresh spinach. The threat of bioterrorism on the safety of the food supply is also a public concern. There are an estimated 76 million cases of foodborne disease (illness) each year in the U.S., resulting in about 325,000 hospitalizations and 5,000 deaths. The most severe cases tend to occur in the very old, the very young, those who have an illness already that reduces their immune system function, and in healthy people exposed to a very high dose of an organism. The increase in the consumer food dollar being spent on foods prepared outside the home, would support the need for food safety education programs targeting foodservice operations, (e.g., restaurants, schools, hospitals, care home, childcare centers, grocery stores).

The Kansas Department of Health and Environment, Office of Surveillance & Epidemiology reported 20 foodborne outbreaks and 1271 foodborne cases in 2007. Most cases of foodborne illness can be prevented through proper hygiene practices like hand washing and by following proper food handling and preparation recommendations. There is an increased interest in locally grown foods and home food preservation among Kansas residents. These trends will require additional food safety education relevant to these practices. In the 2007-2008, K-State Research and Extension Family and Consumer Science Program Survey of 2065 Kansas citizens, 83.4% indicated that handling food safely at home was important; 76% identified preserving food safely at home as important. This same survey indicated that 74.1% of the respondents stated that keeping food safe when eating out (restaurants) was important. The March 2009, KSRE PDC Strategic Opportunities Survey (564 county PDC members), showed that 86% of the respondents indicated that enhancing the safety of the food supply was important or somewhat important.

2. Scope of the Program

- In-State Extension
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

New emerging issues and pathogens derailing set program; lack of resources: financial and personnel; ability to respond to emergencies

2. Ultimate goal(s) of this Program

Ensure A Safe Food Supply for All

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890

Year	Extension		Research	
	1862	1890	1862	1890
2015	57.0	0.0	34.0	0.0
2016	57.0	0.0	34.0	0.0
2017	57.0	0.0	34.0	0.0
2018	57.0	0.0	34.0	0.0
2019	57.0	0.0	34.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Develop new rapid methods for the surveillance, detection, isolation, and quantification of microbes and chemical residues in animals, plants, and food products. • Develop risk monitoring techniques to detect potential hazards in the distribution chain. • Validate the efficacy of techniques in controlling and eliminating microbial and chemical hazards. • Disseminate food safety and bio-security information through extension and research seminars, workshops, and resident and distance education programs, using a variety of media options and communication tools. • Offer safe food production, handling, and sanitation education to groups involved in all levels of food production and service. • Identify best management practices to prevent foodborne illness and to enhance the security of the food supply throughout the food chain. • Develop technology to reduce the hazards and improve the quality of animal food products, which will complement the development of HACCP programs by USDA. • Develop, complement, and maintain an aggressive technology transfer system that effectively communicates work about Food Safety to consumers, students, industry, government, and other scientific investigations.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations	● Newsletters ● Web sites other than eXtension ● Other 1 (professional & trade journals) ● Other 2 (white papers; OpEd articles)

3. Description of targeted audience

• Growers and processors of agricultural commodities, commercial and non-commercial food service personnel, market and home gardeners, other food handlers, retail markets, consumers, and educator; • Families and individuals of all ages living in Kansas, including populations with limited resources; low literacy skills; varying ethnicities; disabilities, diseases, or impairments; and documented or identifiable health disparities; • Economic stakeholders, and policy and funding agencies; • Health care, education, and nutrition professionals; • K-State Research & Extension faculty and staff with responsibilities for food and/or nutrition; • Government; and • Consumer groups (i.e., STOP).

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of rapid methods developed for the surveillance, detection, isolation, and quantification of microbes and chemical residues in animals, plants, and food products
- Number of therapeutic, chemical, and physical treatments developed for animals and plants and their products to eliminate or reduce contamination with potential hazards
- Number of ServSafe certification workshops

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Increase knowledge level and improve attitude of clientele in safe food production, handling, and sanitation programs; best management practices to prevent foodborne illness; and social, economic, and communications issues related to food safety and agricultural bio-security (Measured by number of participants increasing knowledge)
2	Increase adoption of recommended safe food handling practices at the individual, family, community, production, and supply system levels (Measured by number of participants in food service manager certification class who successfully complete the exam)
3	Reduce incidence of foodborne illness (Measured by number of foodservice facilities with trained employees)
4	Increase number of viable technologies to improve food safety (Measured by number of viable technologies developed or modified for the detection and characterization of food supply contamination from foodborne threats)
5	Increase understanding of the ecology of threats to food safety from microbial and chemical sources (Measured by number of students enrolled in Food Safety and Defense graduate certification)

Outcome # 1

1. Outcome Target

Increase knowledge level and improve attitude of clientele in safe food production, handling, and sanitation programs; best management practices to prevent foodborne illness; and social, economic, and communications issues related to food safety and agricultural bio-security (Measured by number of participants increasing knowledge)

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
- 723 - Hazards to Human Health and Safety

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Increase adoption of recommended safe food handling practices at the individual, family, community, production, and supply system levels (Measured by number of participants in food service manager certification class who successfully complete the exam)

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Reduce incidence of foodborne illness (Measured by number of foodservice facilities with trained employees)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
- 723 - Hazards to Human Health and Safety

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

Increase number of viable technologies to improve food safety (Measured by number of viable technologies developed or modified for the detection and characterization of food supply contamination from foodborne threats)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
- 723 - Hazards to Human Health and Safety

4. Associated Institute Type(s)

- 1862 Research

Outcome # 5

1. Outcome Target

Increase understanding of the ecology of threats to food safety from microbial and chemical sources (Measured by number of students enrolled in Food Safety and Defense graduate certification)

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
- 723 - Hazards to Human Health and Safety

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges

Description

From past experience, any or all of these factors can impact outcomes of this planned program.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Following these intended long-term outcomes, are evaluation questions developed to measure the level of success achieved:
- Fewer Kansans experience foodborne illness.
- Foodborne illnesses reported by the Kansas Department of Agriculture and KDHE Office of Epidemiology decrease.
- KDHE foodservice code violations in various kinds of food service operations decrease.
- Fewer incidences of foodborne illness from home food handling and preservation occur.

Evaluation Questions:
- Have foodborne illnesses reported by the Kansas Department of Agriculture and KDHE Office of Epidemiology decreased?
- Have KDHE foodservice code violations in various kinds of food service operations decreased?
- Has the incidence of foodborne illness from home food handling and preservation decreased?

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Natural Resources and Environmental Management

2. Brief summary about Planned Program

Concern about the quality of the environment continues to guide K-State Research and Extension to develop programs that: Improve and protect soil and water quality in agricultural, rural, and urban landscapes and watersheds; conserve and prolong the life of the Ogallala Aquifer and other important surface and groundwater resources while sustaining communities dependent on those water resources; improve understanding of sources, fate, and transport of air emissions from confined animal feeding, agricultural burning and tillage, soil erosion, and other activities; improve understanding of natural resource, environmental, economic, and social impact of changing climate and energy needs.

K-State Research and Extension faculty has expertise in many disciplines that can be applied to the urgent need to find alternative approaches to fuels and consumer products for which we currently rely on petroleum and other fossil fuels. We have expertise in logistics for accessing biomaterials, for biochemistry to convert our agricultural feedstocks to simple building block compounds, and then convert these compounds into a range of chemicals, adhesives, polymers, and biofuels. K-State engineering faculty has expertise in process design and our economists are expert in market development and application of our rural resources to meet market needs.

Climate change is a major long-term environmental issue. It is a complex issue requiring multi-disclipinary perspectives. Climate change will require adaptations in our agricultural practices and natural resources, and create economic and public policy challenges. Land use practices are one of the biggest contributors to global warming.

An important component of the Kansas' Climate Change program, the Konza Prairie Biological Station (KPBS), is a platform for basic research to enhance the long-term productivity, sustainability, and conservation of Kansas rangelands and the resources they provide. This interdisciplinary program is designed to further our understanding of the ecology and management of native rangelands, particularly tallgrass prairie.

Crop research programs exist at five research centers.

Note to reviewers: What used to be the climate change planned program and portions of sustainable energy have been combined with this more comprehensive planned program.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	12%		12%	
104	Protect Soil from Harmful Effects of Natural Elements	13%		8%	
111	Conservation and Efficient Use of Water	19%		15%	
112	Watershed Protection and Management	10%		7%	
121	Management of Range Resources	5%		7%	
132	Weather and Climate	2%		7%	
141	Air Resource Protection and Management	3%		5%	
205	Plant Management Systems	8%		8%	
511	New and Improved Non-Food Products and Processes	15%		12%	
601	Economics of Agricultural Production and Farm Management	3%		3%	
603	Market Economics	7%		3%	
605	Natural Resource and Environmental Economics	3%		13%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

• Soil, water, and energy conservation is crucial to sustain the viability of the agricultural economy in Kansas. In western Kansas, the Ogallala Aquifer supports irrigated crop agriculture that provides feed grains for a robust animal feeding industry, as well as providing water for municipal and industrial uses. The aquifer is a finite resource with recharge rates of near zero or so small as to be dwarfed by withdrawal rates. Large areas of Kansas have only a 20-50 years supply at current extraction rates. Water use and availability, the economics of water extraction and crop production, technology development and adoption, and current and new policies will determine the viability of agriculture in Kansas and the useable life of the aquifer.

• There is also an opportunity to better manage soils for carbon sequestration and not only sustain productivity but mitigate increasing ambient concentrations of carbon dioxide.

• Developing a conservation approach to agricultural production of biofuels could help meet water quality and conservation goals, protect farmlands, improve biodiversity and wildlife habitat, enhance rural economic opportunities, and simultaneously contribute to national renewable energy goals.

• Abundant clean water is crucial to the Kansas economy. Much of Kansas depends on surface water in streams or reservoirs that provide drinking water sources, municipal and other domestic and industrial uses, recreation, livestock watering, and other agricultural uses to vast areas of Kansas. The state has several designated high priority Total Maximum Daily Loads (TMDLs) streams and watersheds where water quality restoration actions are needed. Many of the streams are impaired for fecal coliform bacteria

and dissolved oxygen (an indicator of sediment, nutrient, and organic matter loading), while many reservoirs are impaired for eutrophication. Common sources of fecal bacteria include livestock in and/or near streams, human contributions from municipal sewage systems or from individual on-site waste systems, and sometimes wildlife. Common sources of nutrient, sediment, and organic loading are from confined livestock, non-confined livestock, and cropland. Watershed remediations with leadership and engagement by local stakeholders are needed to address many of the water quality problems in Kansas.

• Almost half (42%) of the nation's fed beef supply is produced and processed on the High Plains of Texas and southwestern Kansas, with projections of continued growth not only in fed beef cattle, but also large scale dairies and swine production, which are relocating to the region. Air quality issues are presenting major challenges for confined animal feeding, as dust and odor-related complaints by the public become more frequent. Animal agriculture is a major source of ammonia, which when combined with other gaseous pollutants, can form respirable particulate matter and contribute to regional haze problems; Kansas is among the seven states that have the highest ammonia emissions in the U.S., according to the United States Environmental Protection Agency. Best Management Practices for minimizing emissions need to be developed, tested, and delivered to producers.

• Based on data derived for 1990, Kansas ranks 31st in total greenhouse gas production. Total greenhouse gas emissions, due to human activity in the state of Kansas during 1990, were about 84 million tons (CO_2 equivalent). CO_2 is the major greenhouse gas emitted in Kansas accounting for about 86% of 1990 emissions, followed by CH_4 and N_2O, accounting for 11 and 3%, respectively.

• Fossil fuel consumption is a major source of greenhouse gas emissions in Kansas, accounting for 86% of 1990 CO_2 equivalent emissions. The electric utilities sector accounted for 41% of carbon dioxide emissions from fossil fuel consumption, a majority of which (95%) are from bituminous coal burning. Transportation and industrial processes are other major contributors to greenhouse gas emissions, accounting for 50% of emissions from fossil fuel burning. Methane emissions by domesticated animals and landfills, and N_2O emissions from fertilizer use in agriculture were the other significant sources of greenhouse emissions, together accounting for 13% of 1990 CO_2 equivalent emissions. Natural gas and oil systems, livestock waste management systems, forest management and land-use change, burning of agricultural crop wastes, and wastewater treatment were minor emission sources, contributing about 2% of total greenhouse gas emissions.

• While the utilization of ethanol and other bio-based fuels have been recognized for decades, inexpensive petroleum resources have made it uneconomic to exploit our renewable resources from agriculture. The recent increase in petroleum price has heightened awareness of the importance of relearning the conversion processes that transform biomaterials into fuels, as well as other products that we have derived from petroleum.

• This is a unique opportunity for agriculture to provide solutions that help provide independence from foreign energy suppliers, invigorate our rural economy, and improve national security. However, additional research is needed to improve the efficiencies for bioconversion. Once improved technologies are established, we can provide ongoing technical outreach to assure that the newest developments are applied in this rapidly advancing industry.

• Agricultural production of biomass is a promising source of renewable energy derived from direct burning for electricity generation and processing into chemical feedstocks and fuels. Use of biofuels will enhance national energy security and promote sustainability of rural economies and social structure. Even though Kansas has a strong production agriculture base that could produce biofuels on a large scale, there will be a need to balance their production with existing agricultural and urban demands on our land and water resources.

2. Scope of the Program

- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

• There is effort underway to re-evaluate water use policy, make adjustments, and provide incentives for water conservation and wise use that will prolong the life of the Ogallala Aquifer. However, these actions need to be coupled with and built upon a sound scientific information base.

• Finite petroleum resources must be replaced by bio-based resources for production of many of our product and energy needs. This transition will require time and infrastructure changes along with new technology development. Development of sound science to support this transition is critical to long-term stablility of our society.
• Funding resources must grow if this new area is to fulfill the needs we have to better utilize our agricultural resources and reduce reliance on petroleum resources.
• The key area of research is learning how to better utilize the cellulosic components of our bio-based resources. This will require new technology development as well as effective transfer to users in the industry.
• Addressing issues of climate change requires multidisciplinary, multistate, collaborative research and extension efforts. Environmental stewardship and adaptation to climate variability will be essential for the long-term sustainability of Kansas agriculture.

• The Great Plains is an area of strong seasonal climate variations. Climate change is likely to combine with other human-induced stresses to further increase the vulnerability of ecosystems to pests, invasive species, and loss of native species.
• The central grassland of the US is one of the most productive rangelands. Changes in amount of precipitation will impose critical environmental stress and may compromise future grassland productivity and sustainability. Extreme events such as heat waves, droughts, and heavy rainfall will affect many aspects of life in the Great Plains. Water resources will also be threatened. This will impact the agricultural and ranching activities that provide jobs and income to many of the region's residents.

2. Ultimate goal(s) of this Program

Enhance Effective Decision-Making Regarding Environmental Stewardship:
• Water Conservation and Management -- Prolong the life of the Ogallala Aquifer and sustain rural economies by developing and disseminating information about new water conservation and management technologies
• Improve Quality of Land, Air, and Water

• Build a viable alternative energy economy that includes bio-fuels and bio-power.
• Address priority areas of rangeland health assessment, invasive species, grazing, and technological innovation.
• Improve predictive understanding of response of rangelands to global environmental changes and their consequences.
• Improve climate mitigation strategies and their adoption.

• Increase public understanding of the impacts of climate change; especially the effects on agriculture.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2015	55.0	0.0	23.0	0.0
2016	55.0	0.0	23.0	0.0
2017	55.0	0.0	23.0	0.0
2018	55.0	0.0	23.0	0.0
2019	55.0	0.0	23.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Understand the sources, fate, and transport of important water contaminants (i.e., fecal coliform bacteria, nutrients, sediment, and pesticides [especially atrazine herbicide]), and develop and determine the environmental and economic effectiveness of best management practices for these potential contaminants.

• Quantify the environmental and economic effectiveness of best management practices for improving water quality at the watershed level.
• Disseminate science-based information through environmental education programs for both youth and adults, and deliver extension programs aimed at stakeholders that focuses on adoption of best management practices in targeted areas for water quality improvement.
• Develop and test new crop, livestock, bioenergy, and riparian forest systems that will reduce water use while optimizing productivity, environmental quality, and profitability, including water saving technologies for concentrated animal feeding operations (CAFOs) and industries that process agricultural commodities.
• Develop an information and education program for policy makers, producers, water professionals, and youth audiences with respect to the Ogallala Aquifer, including assessment of the potential impacts of climate change on this important water resource.
• Develop an understanding of air quality impacts of rangeland burning, including extent and timing of burn events, influence of fuel load on emissions, modeling the downwind transport of particulate matter, and developing a climatology of extreme events.
• Disseminate science-based information and transfer technologies to stakeholders, and implement youth education programs focused on air quality.
• Disseminate science-based information regarding the sustainability of biofuel production and processing.
• Develop new processes to modify agricultural-based materials into higher value products.

• Develop resources and pathways to increase climate literacy.
• Provide decision tools for adaptive best management practices that address the effects of climate change.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● One-on-One Intervention ● Demonstrations ● Other 1 (Tours) ● Other 2 (Fair and conference displays)	● Newsletters ● Web sites other than eXtension ● Other 1 (Web-based educational materials) ● Other 2 (Magazine and newspaper articles)

3. Description of targeted audience

• Agricultural producers, youths, policymakers/regulators, crop and livestock consultants.

• Growing industry based on bioprocessing and bioconversion, including the existing ethanol and biofuels industry.
• International grain processors.
• Industrial products manufacturers: adhesives, composites, bio-based chemicals, solvents and lubricants.
• Entrepreneurs and investors seeking to enter this industry.
• Audiences whose production systems will be influenced by climate change, as well as those who consult or influence the decision-makers of these producers. Secondary audiences will be decision-makers and leaders responsible for preparing communities for change (e.g., state and local elected officials, environmental groups).

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of educational programs delivered
- Number participating in educational programs
- Number of refereed research publications
- Number of presentations at national and international conferences
- Number of workshops, web-based curricula, and field days/tours related to climate change

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Producers adopt BMPs that protect environmental quality (measured by number adopting BMPs)
2	Producers adopt BMPs for atrazine and soil erosion (measured by number of acres)
3	Measurable improvement in water quality (percent reduction atrazine) in Little Arkansas River Watershed
4	Improve utilization of biological raw materials as bioconversion substrates (measured by number of new processes developed).
5	An enhanced or improved economy as a result of bioenergy development (measured by number of new bio-based businesses created)
6	Improved environmental conditions through sustainable biofuel production and utilization (measured by: gallons biofuel; gallons of cellulosic ethanol; gallons of biodiesel . . . produced in KS)
7	Improved environmental conditions through sustainable biofuel production and utilization (measured by: PPM OF CO2 in atmosphere; water quality; average temperature during year)
8	Agricultural/natural resource producers, and/or business representatives modify existing practices or technologies and/or adopt new practices to protect/enhance natural resources and/or enhance biodiversity (Measured by # documented)
9	Development of new knowledge and technologies (Measured by percentage of participants who increase knowledge of management practices under climate variability and change)
10	Improve climate mitigation strategies and their adoption (Measured by number of farms and landowners reducing carbon and energy footprints)

Outcome # 1

1. Outcome Target

Producers adopt BMPs that protect environmental quality (measured by number adopting BMPs)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 141 - Air Resource Protection and Management

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Producers adopt BMPs for atrazine and soil erosion (measured by number of acres)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 141 - Air Resource Protection and Management

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Measurable improvement in water quality (percent reduction atrazine) in Little Arkansas River Watershed

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 4

1. Outcome Target

Improve utilization of biological raw materials as bioconversion substrates (measured by number of new processes developed).

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes

4. Associated Institute Type(s)

- 1862 Research

Outcome # 5

1. Outcome Target

An enhanced or improved economy as a result of bioenergy development (measured by number of new bio-based businesses created)

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes

- 603 - Market Economics

4. Associated Institute Type(s)

- 1862 Research

Outcome # 6

1. Outcome Target

Improved environmental conditions through sustainable biofuel production and utilization (measured by: gallons biofuel; gallons of cellulosic ethanol; gallons of biodiesel . . . produced in KS)

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes
- 603 - Market Economics
- 605 - Natural Resource and Environmental Economics

4. Associated Institute Type(s)

- 1862 Research

Outcome # 7

1. Outcome Target

Improved environmental conditions through sustainable biofuel production and utilization (measured by: PPM OF CO2 in atmosphere; water quality; average temperature during year)

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes
- 603 - Market Economics
- 605 - Natural Resource and Environmental Economics

4. Associated Institute Type(s)

- 1862 Research

Outcome # 8

1. Outcome Target

Agricultural/natural resource producers, and/or business representatives modify existing practices or technologies and/or adopt new practices to protect/enhance natural resources and/or enhance biodiversity (Measured by # documented)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 9

1. Outcome Target

Development of new knowledge and technologies (Measured by percentage of participants who increase knowledge of management practices under climate variability and change)

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 10

1. Outcome Target

Improve climate mitigation strategies and their adoption (Measured by number of farms and landowners reducing carbon and energy footprints)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 111 - Conservation and Efficient Use of Water

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Other (Educational funding)

Description

From past experience, any or all of these factors can significantly impact outcomes of this planned program.

This program area will be a moving target. Strategies, viable approaches, and intended outcomes will be affected by the degree to which climate change and politics affect conditions. This area will be quite volative with policy changes and incentive programs affecting economics of target processes. It will be challenging to stay focused on the fundamental scientific issues that will serve as platforms to solve problems independent of policy changes.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Following are examples of questions to be asked of clientele to determine adoption of Best Management Practices:

Short-Term:

Target audiences will become aware of both existing and emerging natural resource issues. Participants will gain an understanding of:
- why environmental issues are of interest or concern
- who/what is impacted by these environmental issues
- to what degree stakeholders are impacted
- which protocols should be employed to address and ultimately resolve the issues.

Audiences will increase their knowledge base regarding economically and environmentally

sustainable practices that will prevent future problems. Stakeholders will recognize and appreciate the importance of their role in the process of collaboration and resolution of natural resource issues. Improving grassland health is the focus of this year's plan, and evaluation tools are being developed to improve the reporting of program impacts in this area.

Evaluation Questions:

Do you have a written management plan for your grassland? (Before event)
What is the range or pasture condition of your grassland?
After participating in this program, I gained increased understanding about _____ .

Medium-Term:

Stakeholders and participants will develop long-range strategic plans and implement best management practices as they relate to the sustainable management of grasslands, water, forestry, energy, wildlife, and air. Partnerships will be made among stakeholders to work collaboratively to alleviate and prevent environmental concerns throughout Kansas.

Evaluation Questions:

What changes in grassland management, if any, do you plan to make based on what you have learned at this meeting?
What is the trend in range condition?
What is the trend in pasture condition?

Long-Term:

Target audiences will benefit from measurable improvements in existing natural resource concerns and mitigation of emerging threats. Kansas citizenry will be environmentally literate and will make sound decisions regarding natural resources. Participants and their associated interests will become economically viable and environmentally sustainable.

Evaluation Questions:

Was grazing plan developed?
Were goals from grazing plan met?
Have you implemented BMPs related to the Extension program?
What economic impact (Dollars saved or increased dollars earned) on a per head or per acre basis can you attribute to your participation in this program?

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Childhood Obesity: Healthy Eating and Physical Activity through the Lifespan

2. Brief summary about Planned Program

Concern about childhood obesity, healthy eating, and ensuring an abundant food supply continue to guide K-State Research and Extension (KSRE) to develop programs that: Increase physical activity; improve access to high quality foods (including local foods), especially for consumers with limited resources; and promote healthy eating in children, youth, and adults.

3. Program existence : Intermediate (One to five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
702	Requirements and Function of Nutrients and Other Food Components	5%		35%	
703	Nutrition Education and Behavior	70%		55%	
724	Healthy Lifestyle	20%		0%	
802	Human Development and Family Well-Being	5%		10%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

The New England Journal of Medicine published an article in (March 2005) which stated that the prevalence and severity of obesity is so great, especially in children, that the associated diseases and complications - Type 2 diabetes, heart disease, kidney failure, cancer - are likely to strike people at younger and younger ages. Some researchers suggest that the current generation of children is the U.S. may have shorter life expectancies than their parents, if the escalating childhood obesity epidemic goes unchecked.

The 2003 National Survey of Children's Health found that 16% of Kansas children were overweight and 14% of Kansas children were obese. Kansas data have shown an increase in the percentage of children who are overweight or obese. Kansas children living in poverty (15.2%) are more likely to be overweight or obese. Research shows that overweight and obesity can lead to increased risk of developing chronic diseases and psychosocial problems. Many factors have been linked to the increase in

obesity, including increasing portion sizes; eating out more often; increased consumption of sugar-sweetened drinks; increasing television, computer, electronic gaming time; and fear of crime, which prevents outdoor exercise. While a wide variety of food choices are available to most Kansans, the nutrient density of many available foods is lacking. Behavioral and environmental factors are large contributors to overweight and obesity and provide the greatest opportunity for actions and interventions designed for prevention and treatment. Consequently, there has been a greater recognition of the importance of nutrition education. School-based physical activity and nutrition initiatives can reach a large and diverse number of Kansas children. Efforts to change or improve the school environment to make healthy food options available and to limit or restrict foods of minimal nutritional value are realistic and effective measures.

Nutrition and physical activity have been identified as two of six critical types of adolescent behavior that contribute to the leading causes of death and disability in the U.S. for this population. In 2007, more than 78% of high school students reported not eating fruits and vegetables five or more times daily and 65% did not participate in at least 60 minutes of physical activity per day. These statistics help explain why the national childhood obesity rates have increased from 5.0 percent to 17.4 percent for youth ages 12 to 19 within the past three decades. In Kansas, 11% of high school students were classified as obese, 79% ate fruits and vegetables less than five times per day, and 55% did not meet recommended levels of physical activity.

Other factors that have been linked to the increase in obesity include increasing portion sizes; eating out more often; increased consumption of sugar-sweetened drinks; increased screen time; and fear of crime, which prevents outdoor exercise. Behavioral and environmental factors are large contributors to overweight and obesity and provide the greatest opportunity for actions and interventions designed for prevention and treatment.

2. Scope of the Program

- In-State Extension
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Most chronic diseases can be prevented through better lifestyle choices which will also lower health care costs.

2. Ultimate goal(s) of this Program

- Promote Healthy Eating in Children, Youth, and Adults
- Create Opportunities and Support People in Kansas to Improve Their Physical, Mental, and Emotional Health and Well-Being

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2015	49.0	0.0	5.0	0.0
2016	49.0	0.0	5.0	0.0
2017	49.0	0.0	5.0	0.0
2018	49.0	0.0	5.0	0.0
2019	49.0	0.0	5.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Educational programs about making healthy food choices and increasing physical activity

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations	● Newsletters ● Web sites other than eXtension ● Other 1 (white papers; OpEd articles)

3. Description of targeted audience

* Families and individuals of all ages living in Kansas, including populations with limited resources; low literacy skills; varying ethnicities; disabilities, diseases, or impairments; and documented or identifiable health disparities; * Economic stakeholders, and policy and funding agencies; * Health care, education, and nutrition professionals; KSRE faculty and staff with responsibilities for food and/or nutrition; * Consumer groups (i.e., STOP)

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of workshop series conducted

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Children and youth increase their physical activity and/or reduce sedentary time. (Measured by percentage of number reached)
2	Youths increase fruit and vegetable consumption (Measured by number reporting increase)
3	Adolescents reporting healthier lifestyle habits (e.g., eating meals from a variety of food groups; increased frequency and/or time spent participating in physical activity per day) (Measured by increased percentage of those reached)
4	Children and youth increase consumption of foods as recommended by the U.S. Dietary Guidelines for Americans, such as increasing vegetables, fruits (Measured by percentage of those reached)
5	Families/caregivers adopt healthy eating patterns, such as eating breakfast, eating as a family, healthier snack choices (Measured by percentage of those reached)
6	Children and youth increase consumption of foods as recommended by the U.S. Dietary Guidelines for Americans, such as increasing whole grains (Measured by percentage of those reached)
7	Kansans of all ages engage in increased physical activity.

Outcome # 1

1. Outcome Target

Children and youth increase their physical activity and/or reduce sedentary time. (Measured by percentage of number reached)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle
- 802 - Human Development and Family Well-Being

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Youths increase fruit and vegetable consumption (Measured by number reporting increase)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 702 - Requirements and Function of Nutrients and Other Food Components
- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle
- 802 - Human Development and Family Well-Being

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Adolescents reporting healthier lifestyle habits (e.g., eating meals from a variety of food groups; increased frequency and/or time spent participating in physical activity per day) (Measured by increased percentage of those reached)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle
- 802 - Human Development and Family Well-Being

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 4

1. Outcome Target

Children and youth increase consumption of foods as recommended by the U.S. Dietary Guidelines for Americans, such as increasing vegetables, fruits (Measured by percentage of those reached)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

Families/caregivers adopt healthy eating patterns, such as eating breakfast, eating as a family, healthier snack choices (Measured by percentage of those reached)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle
- 802 - Human Development and Family Well-Being

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 6

1. Outcome Target

Children and youth increase consumption of foods as recommended by the U.S. Dietary Guidelines for Americans, such as increasing whole grains (Measured by percentage of those reached)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 7

1. Outcome Target

Kansans of all ages engage in increased physical activity.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle
- 802 - Human Development and Family Well-Being

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programmatic Challenges

Description

{NO DATA ENTERED}

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Following these short-, medium-, and long-term intended outcomes are evaluation questions developed to measure the level of success achieved:

Short-Term:

- Program participants increase their awareness and knowledge of recommendations related to healthy eating and physical activity
- Program participants have improved attitudes about healthy eating and increased physical activity
- Staff and volunteers increase their awareness and knowledge of what constitutes an environment with healthy food choices and physical activity in schools and public venues

Evaluation Questions:

-- What awareness, knowledge or change in attitudes did program participants gain/experience regarding healthy eating and physical activity?
-- What awareness or knowledge did program participants gain regarding environments that support healthy food choices and physical activity?

Medium-Term:

- Program participants demonstrate improved eating and physical activity habits- Staff and volunteers advocate or develop plans for increased access to healthful eating choices and physical activity environments in schools and public venues

Evaluation Questions:

- Three to six months after a program, what changes do participants report regarding more healthful eating and
physical activity habits?
- Three to six months after a program, what changes have participants taken to support healthier food choices and physical activity in schools and public venues?

Long-Term:

- More Kansans are at a healthy weight and meet both the dietary and physical activity Guidelines for Americans' recommendations
- More Kansas schools and public venues plan and ensure healthy eating and physical activity environments for students/Kansas residents

Evaluation Questions:

- Are more Kansans at a healthy weight and report consuming more vegetables and fruits and being physical active on most days?
- Do more Kansas schools and public venues plan and ensure environments for healthy eating and

physical activity?

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Healthy Communities: Youth, Adults and Families

2. Brief summary about Planned Program

Through K-State Research and Extension's multiple approaches - including basic and applied research and research-informed strategies - to promote healthy communities - programs will be developed to: Improve life-long money management skills to create financial security; build harmonious relationships to create resilient families; help children and youth develop competence, confidence, character, compassion, and a sense of belonging (connectedness); engage youth in science to improve life for a sustainable world; assist people to live and thrive in their homes as long as possible; grow communities' capacity to identify and meet local needs; improve participation of children, youths, and adults in the life of the community; enhance community leadership and entrepreneurship; help residents, organizations, and communities identify opportunities for partnerships; partner with communities to facilitate preparation for, response to, and recovery from emergencies and disasters; build capacity of people to optimize their personal health and well-being and to avoid or manage chronic health conditions; empower individuals and families to adapt to changes associated with the aging process; and connect individuals and families to mental and emotional support systems and resources.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
724	Healthy Lifestyle	20%		10%	
801	Individual and Family Resource Management	10%		15%	
802	Human Development and Family Well-Being	15%		20%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	15%		15%	
806	Youth Development	40%		10%	
903	Communication, Education, and Information Delivery	0%		30%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Kansans have not been immune to trends that affect children, youths, and families throughout the nation. Adult obesity rates in Kansas have increased almost 70%. Many health problems such as obesity, diabetes, hypertension, stroke, heart disease, certain cancers, respiratory disorders, and osteoporosis are influenced by poor dietary habits and inactivity.

Most Kansas youth are healthy, connected to their families, schools, and communities; and are on the path to becoming contributing and caring adults. However, there are areas of concern in Kansas (e.g., 15% of children between 6th and 12 grades report binge drinking; an increasing number of youth attempt suicide each year/; nearly 10,000 military-connected youths experience the transitions associated with multiple deployments; 16% of our children are overweight, 11% do not get enough exercise; and increasing numbers are not completing high school). Most experts agree that the goals of positive youth development are the "5 Cs" (competence, confidence, character, compassion, and connection/sense of belonging).

The United States is falling dangerously behind other nations in developing its future workforce of scientists, engineers, and technology experts. America now faces a future of intense global competition with a startling shortage of scientists. Only 18% of U.S. high school seniors are proficient in science. A mere 5% of current U.S. college graduates earn science, engineering, or technology degrees compared to 66% in Japan and 59% in China. To ensure global competitiveness, we must act now to prepare the next generation of science, engineering, and technology leaders.

Too many individuals and families are experiencing financial crisis because of inadequate savings, too much debt, and poor planning for potential major life events. On average, U.S. households carry about $8,000 in credit card debt, up two-thirds compared to a decade ago. More than half of Americans report living paycheck to paycheck. During the past decade, the rate of personal bankruptcy in the U.S. rose by 69%. Extension targets programs for youth, financially vulnerable populations, and consumers making financial decisions through their lifetime. The overall goal is for people to acquire the knowledge, skills, behavior changes and motivation to build financial security, which is the cornerstone of prosperous communities, nurturing neighborhoods, and strong families.

The U.S. and Kansas are growing older. Currently 13% of Kansans are age 65+ and that number is expected to increase to 20.2% by 2030. Kansas counties are of particular interest, as 14 reflect an older population that is approximately double that of the nation's average. Changes to meet the demands of this aging demographic are expected in education, health and wellness, health care, family relationships, work and home environments, agriculture, community life, politics, and the economy. Communities consistently deal with a host of issues that demand leadership in the midst of increasing complexity. They are struggling to maintain competitive advantage in a rapidly changing global economic context. These communities need assistance to identify strategies to address the rapidly changing social, environmental, human, and economic landscape.

2. Scope of the Program

- In-State Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

- Today's complex issues and problems require new perspectives and skills.
- Community policies and practices that are informed by research can make it easier for people to create healthy social, economic, and physical environments.

2. Ultimate goal(s) of this Program

People in Kansas are prepared to thrive in a global society and all aspects of life; communities are sustainable and resilient to the uncertainties of economics, weather, health, and security; and people in Kansas have opportunities and support to improve their physical, mental, and emotional health and well-being.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2015	160.0	0.0	21.0	0.0
2016	160.0	0.0	21.0	0.0
2017	160.0	0.0	21.0	0.0
2018	160.0	0.0	21.0	0.0
2019	160.0	0.0	21.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Develop/identify theory- and evidence-based educational programs to promote healthy communities: youth, adults, and families. • Disseminate, implement, and evaluate effectiveness of programs to promote healthy communities: youth, adults, and families.• Strengthen collaborative capacity within K-State Research and Extension and among communities/ organizations to promote healthy communities: youth, adults, and families. • Provide technical assistance and educational programs to citizens seeking to make their communities healthy and sustainable places for meeting human needs. • Establish links between community development researchers and practitioners for cooperative efforts that result in healthy, sustainable communities. •Provide experiential learning opportunities for children and youth to address key and emerging issues that affect their growth and development. • Deliver and evaluate evidence-based community-development strategies for positive youth development in structured out-of-school settings (e.g., after-school programs, youth-serving organizations, clubs). • Strengthen the support for a volunteer development system through training and education on the experiential learning model, 4-H essential elements, ISOTURE model, age appropriate learning experiences and emerging aspects of youth development. • Provide imaginative, motivational, and experiential learning experiences to help youth build competencies and master life skills.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods

● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations	● Public Service Announcement ● Newsletters ● TV Media Programs ● Web sites other than eXtension ● Other 1 (Electronic media (e.g., blogs)) ● Other 2 (Electronic media (e.g., radio))

3. Description of targeted audience

• Families and individuals of all ages living in Kansas, including populations with limited resources; low literacy skills; varying ethnicities; disabilities, diseases, or impairments; and documented or identifiable health disparities
• Economic stakeholders, and policy and funding agencies
• Health care and education professionals
• K-State Research & Extension faculty and staff with responsibilities for healthy communities: youth, adults, and families

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of educational programs delivered to increase knowledge of healthy communities: youth, adults, and families
- Number of program participants
- Number of educational programs to increase knowledge of volunteer development, experiential learning, and youth development competencies
- Number of communities that participate in community capacity building trainings and activities led through Extension.

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Community projects engage participants in process to address community goals (Measured by number of substantial community projects that reflect shared participation in addressing community goals)
2	Community members are engaged in community improvement programs (measured by number of volunteer hours)
3	Volunteers, faculty, and staff understand and demonstrate effective youth development principles in service to youth (e.g., 5 Cs of positive youth outcomes, essential elements to positive learning environments)(Measured by number demonstrating competency)
4	Youths improve competence, confidence, connection, and character and caring (measured by number of youths who improve: (a) Competence - believe they are capable and successful; that they have mastery. (b) Confidence - know they influence the world around them (i.e., people and events); that they have independence. (c) Connection - know they are cared about; that they belong. (d) Character and Caring - Youths practice helping others; they are generous.)

Outcome # 1

1. Outcome Target

Community projects engage participants in process to address community goals (Measured by number of substantial community projects that reflect shared participation in addressing community goals)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Community members are engaged in community improvement programs (measured by number of volunteer hours)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Volunteers, faculty, and staff understand and demonstrate effective youth development principles in service to youth (e.g., 5 Cs of positive youth outcomes, essential elements to positive learning environments)(Measured by number demonstrating competency)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

Youths improve competence, confidence, connection, and character and caring (measured by number of youths who improve:
(a) Competence - believe they are capable and successful; that they have mastery.
(b) Confidence - know they influence the world around them (i.e., people and events); that they have independence.
(c) Connection - know they are cared about; that they belong.
(d) Character and Caring - Youths practice helping others; they are generous.)

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Competing Programmatic Challenges

Description

{NO DATA ENTERED}

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

An evaluation consultant worked with Program Focus Teams (PFTs) at our Spring Action Conference. These PFTs will develop tools and begin building evaluation into their Action Plans. Specific examples are that we will evaluate percentage increases in action as stated

. . . in Outcome #4, Youth Development,
CHARACTER and CARING
· Percentage of youth consistently participating in meaningful service-learning opportunies . . .

. . . and in Outcome #2, Community Development,
Long-Term:

Groups/Boards:
Membership on boards and committees is sustained.
Representation on board and committees is expanded.
Members serve longer on boards and committees.
Civic groups/community boards report an increase in effectiveness of leadership and progress towards group goals.

Communities:
Increased diversity among volunteer base.
Community improvements that represent the needs of current and future residents.
Community vitality that attracts young people and families to the community.
Sustainable community improvement process.

Evaluation Questions:
All Participants or Groups/Boards:
How many community groups have been sustained?
How many groups are involved in participatory community planning?
How many boards or committees have partnered with others?
How many participants in leadership development programs report broader community involvement?