SECTION I. Introduction

This document represents a five-year plan for K-State Research and Extension and is a combined submission for the Kansas Agricultural Experiment Station and the Kansas Cooperative Extension Service.

In 1996, K-State Research and Extension evolved as the street name for seamless research and extension efforts at Kansas State University. This organization is headed by the KSU Dean of Agriculture, who also holds the title of Director of Research and Director of Extension. The processes used to generate this document considered research and extension as a continuum that can effectively resolve issues. Stakeholder involvement has been and will continue to be a continuous function in the identification and resolution of issues.

Haskell Indian Nations University is a 1994 Land-Grant. K-State Research and Extension has worked closely with Haskell as a coach and mentor as Haskell takes on an expanded mission. Haskell Indian Nations University sees its responsibilities as going well beyond the Kansas borders, but on four reservations and four urban centers in Kansas, staff from K-State Research and Extension work side-by-side with Haskell staff to bring high quality outreach to the native American population and to help resolve their issues in ways that respect their heritage.

Kansas State University claims to be the first Land-Grant university. In this spirit of being an early adopter, we are proud that we have an administrative structure and team spirit that is conducive to a highly integrated research and extension effort.

The plans outlined in this document were developed to deal with Kansas issues. It is a five-year plan. While it does not distinguish between short, intermediate and long-term objectives, each action team will adjust their implementation strategies to accommodate short-term needs. All K-State Research and Extension faculty have sufficient flexibility in their schedules to respond to short-term needs brought about by emergencies. The Kansas plan has been adapted to meet the planning and documentation needs required by Congress and USDA. This plan has been reviewed by the Kansas Legislature and Extension Councils in all 105 counties. We are confident that the right issues have been identified to serve as a framework for our research and extension work and we are confident that five years from now we can point to differences we have made in the quality of life of many Kansans as we strive to resolve their issues.

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Marc A. Johnson, Director

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George E. Ham, Associate Director

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Richard D. Wootton, Associate Director

SECTION II: The Planning Process

In FY 97, Four Core Mission Themes were identified to create a stronger marketing orientation; all projects for research and extension efforts fall within the framework created by these core areas:

. Youth, Family, and Community Development

. Natural Resources and Environmental Management

. Food, Nutrition, Health, and Safety

. Agricultural Industry Competitiveness

In FY 98, K-State Research and Extension initiated a comprehensive planning effort to identify the issues that would guide research and extension into the 21st Century. This effort had two independent dimensions to identify issues. First, an electronic delphi survey was used to solicit issue/need identification from county, area, and campus-based faculty. Four iterations of the instrument were used to refine the input. Second, a series of stakeholder meetings was held to gain input from citizens. Five meetings in different regions of Kansas were conducted to determine statewide issues/concerns. A minimum of 15 citizens were invited to discuss issues in each of the four core mission areas resulting in 60 or more invitees for each meeting. The participants represented a broad cross section of interests; external groups such as commodity organizations and producer groups nominated individuals to be invited. Social service agencies, schools, and other community organizations were also invited to submit nominations. While there was not a lot of socio-economic or ethnic diversity reflected in the participants, an effort was made to obtain a representative cross section of the Kansas population at each meeting. Personal letters of invitation were sent to each invitee and the Associate Director for Research and the Associate Director for Extension attended all five sessions. The input from the five meetings was aggregated and returned to participants to provide another opportunity for comment.

The data from the Delphi survey and the five stakeholder meetings were merged into sixteen broad issues. These issues serve as the cornerstone for K-State Research and Extension efforts for the next five years.

Development of the sixteen issues was relatively easy. There was great consistency in the concerns raised through the Delphi process and the stakeholder meetings. There was very little difference in input received in different areas of Kansas. It is also reassuring to observe the similarity of issues identified by Purdue, North Carolina State University, and other universities in independent planning events. The process we used in Kansas, with a high level of faculty and stakeholder involvement, gives us a high level of confidence that the right issues emerged through this strategic planning exercise. The four Core Mission Themes aligned with the sixteen issues:

Youth, Family, and Community Development

- Build Strong, Healthy Communities
- Improve Parenting Skills and Family Relationships
- Prepare Youth to Be Responsible Citizens
- Balance Demands of Work, Family, Community, and Time for Self
- Develop Consumer and Financial Management Skills

Food, Nutrition, Health, and Safety

- Promote a Safe Food Supply from Production to Consumption
- Promote Healthier and Safer Lives
- Develop New, Appealing Food Products

Natural Resources and Environmental Management

Ensure Quality and Conservation of Surface Water and Groundwater
Promote Community and Residential Environmental Management
Develop Systems for Improved Soil and Air Quality

Agricultural Industry Competitiveness

Develop Efficient, Integrated Crop Production Systems
Develop Efficient, Coordinated Livestock Production Systems
Enhance the Value of Kansas Agricultural Goods
Develop Agricultural Risk Management Strategies
Develop Agricultural Technologies and Information Systems

In January 1998, the sixteen issues and the process used to identify them were shared with the Kansas Legislature. A major goal that K-State Research and Extension had throughout the planning process was to identify the most important issues and to present them in a way that our publics could better understand our work and our priorities. The response from legislators was overwhelmingly positive. The process and resulting issues gave them confidence that tax dollars were being wisely invested.

Early in '98, we also reviewed the issues with the elected Extension Board Chairs in all 105 Kansas counties. In Kansas, state law provides County Extension Councils the responsibility for planning the local extension program. The Board Chairs were also very supportive of the framework the sixteen issues provided them to identify their priorities and develop their action plans.

By this time in the process momentum had grown. K-State Research and Extension had re-defined its mission and work. Stakeholders and legislators were on board and very supportive.

Action Teams were formed to develop implementation strategies. We started with sixteen teams, but teams subdivided and ultimately there were more than fifty action teams developing plans to help resolve the issues. The teams were made up largely of campus-based faculty, but there were some county and area faculty on many teams. Faculty with research and extension interests are active on most teams. The teams are dynamic in regard to membership and even to the scope of work. There has been some consolidation of teams in recent months and we now have 45 active teams.

The task of the Action Teams is to develop a plan, identify goals and potential impacts, steer the implementation, evaluate, and document the process. Beginning in January 1999, the Action Teams have an annual meeting with department heads and K-State Research and Extension administrators to provide an overview of their work and to communicate resource needs.

Beginning in January 2000, a few key stakeholders will be invited to the overview meetings with the Action Teams. This will provide us with another opportunity to take advantage of stakeholder input as plans are fine-tuned and updated and to build support for the program.

The Action Plans and projects presented in the next section are the result of efforts of the many Action Teams. We have combined the plans into 16 that align with the sixteen issues identified in the planning effort.

The documentation that was submitted reflects the strategic planning that has taken place in Kansas with a high level of stakeholder and faculty involvement. The strategic intent, as we move into the implementation phase, is to maintain organizational focus on making a difference in regard to the 16 issues identified in the plan. This focus will lead to discovery of solutions through research and application of the knowledge base to

resolve issues.

We are working with our leadership group on "strategic intent." In the annual performance review process which addresses prior-year accomplishments as well as next-year goals, we will reinforce the focus on the 16 issues and reward individual and team accomplishments. Additionally, we will continue to meet with all Action Teams on an annual basis. With the leadership group and stakeholder involvement in these annual meetings, we have a mechanism to track progress and maintain focus on goals identified in the plan. An annual oral and printed update is provided to appropriate committees in the Kansas Legislature and staffers in U.S. Congressional offices. Information contained in individual impact reports (see Appendix A), serves as the basis of a faculty member's annual performance review. Team reports are presented in the annual January update meeting as well as accomplishments that are reported during the year at significant benchmarks of a project. Through these individual and team reports we will track progress of resolving each of the 16 issues identified in the plan on a website. While teams, or even individuals, will be able to post accomplishments, the K-State Research and Extension Office of Planning and Reporting will lead the effort of reporting outputs, outcomes, and impacts for each issue.

For each issue, we plan to develop a Gantt or PERT chart with project management software. The chart will indicate significant benchmarks and goals and will provide a visual presentation of the progress of each issue. This, together with a narrative update, should provide website visitors a good overview of the plan and progress-to-date.

Nearly 3,000 K-State Research and Extension publications and nearly 1,000 pages of newsletters are available on the Kansas Information Express Disc published semi-annually. Topics in agriculture, family and consumer sciences, 4-H and youth programs, and related subjects are included. Publications are also available in printed format.

Each team has developed a preliminary evaluation plan. Additional assistance will be provided to teams through the K-State Research and Extension Office of Evaluation and Impact Assessment.

The process we have put in place goes well beyond the administrative needs. K-State Research and Extension is striving to be truly engaged with the ag producers, other citizens, and communities of Kansas to work with them on their problems...to co-learn with them, to bring all the assets of the Land-Grant community to bear on issues that are important to them. We will reward faculty who foster this attitude of engagement and help us maintain the high level of relevance that Kansans expect from KSU.

SECTION III: Action Plans / Anticipated Impacts

Kansas Issues

Youth, Family, and Community Development

YFCD 1 - Build Strong Healthy Communities

YFCD 2 - Improve Parenting Skills and Family Relationships

YFCD 3 - Prepare Youth to be Responsible Citizens

YFCD 4 - Balance Demands of Work, Family, Community, and Time for Self

YFCD 5 - Develop Consumer and Financial Management Skills

Food, Nutrition, Health, and Safety

FNHS 1 - Promote a Safe Food Supply from Production to Consumption FNHS 2 -Promote Healthier and Safer Lives

FNHS 3 - Develop New, Appealing Food Products

Natural Resources and Environmental Management

NREM 1 - Ensure Quality and Conservation of Surface Water and Groundwater

NREM 2 - Promote Community and Residential Environmental Management

NREM 3 - Develop Systems for Improved Soil and Air Quality

Agricultural Industry Competitiveness

AIC 1 - Develop Efficient, Integrated Crop Production Systems

AIC 2 - Develop Efficient, Coordinated Livestock Production Systems

AIC 3 - Enhance the Value of Kansas Agricultural Goods

AIC 4 - Develop Agricultural Risk Management Strategies

AIC 5 - Develop Agricultural Technologies and Information Systems

K-State Research and Extension Action Teams

Youth, Family, and Community Development

by Core Mission Theme	Action Plan Title	
YFCD 1.1	Developing Effective Leadership	2111
YFCD 1.2	Creating Economic Opportunity in Kansas Cities and Counties	2112
YFCD 1.3	Kansas Local Governments: Meeting the Challenges of the 21st Century	2113
YFCD 1.4	High Quality Affordable Childcare	2114
YFCD 1.5	Better Housing for Stronger Communities	2115
YFCD 2.1	Basic Parenting: A Principles/Skills Approach	2121
YFCD 2.2	Basic Living Skills	2122
YFCD 2.3	Families and Divorce	2123
YFCD 3.1	Preparing Youth to be Responsible Citizens through Volunteer Development	2131
YFCD 3.2	Preparing Youth to be Responsible Citizens through Learning Experiences	2132
YFCD 3.3	Preparing Youth to be Responsible Citizens through Youth Involvement	2133
YFCD 3.4	Preparing Youth to be Responsible Citizens through Workforce Skill and Career Competency Development	2134
YFCD 3.5	Preparing Youth to be Responsible Citizens through Expanded Outreach	2135
YFCD 4.1	Promote a Balanced Lifestyle that Includes Time for Work, Family, Community , and Self	2141
YFCD 5.1	Consumer and Financial Management Skills	2151

Food, Nutrition, Health, and Safety

FNHS 1.1	Promote a Safe Food Supply from Production to Consumption – Pre-Harvest	2211
FNHS 1.2	Post Harvest Food Safety	2212
FNHS 1.3	Food Safety for Consumers, Food Service, and Retail Stores	2213
FNHS 2.0	Promote Healthier and Safer Lives	2220

FNHS 3.1	Developing and Evaluating New, Appealing Food Products	2231

Natural Resources and Environmental Management

NREM 1.11	Reducing Pesticide Contamination of Surface Water in Kansas	2311
NREM 1.12	Development and Delivery of a Kansas Environmental Leadership Program	2381
NREM 1.2	Water Conservation and Management in Crop Systems	2312
NREM 1.3	Household & Livestock Water Conservation & Livestock Waste Management	2313
NREM 2.1	Home and Community Environmental Management	2321
NREM 2.2	Horticultural Lawn and Garden Management	2322
NREM 3.1	Preserve and Improve Soil Quality	2331
NREM 3.2	Environmental Air Quality Issues Associated with Agricultural Operations	2332
NREM 8.0	Reaching Our Non-Agricultural Audiences - Youths & Adults	2380

Agricultural Industry Competitiveness

AIC 1.1	Cropping Systems Design and Management	2411
AIC 1.11	Calibrating and Validating Wheat and Soybean Crop Models for Kansas Varieties	H507
AIC 1.2	Sustainable and Organic Cropping Systems	2412
AIC 2.1	Develop Efficient, Coordinated Beef Production Systems	2421
AIC 2.2	Developing Efficient and Sustainable Dairy Cattle Systems	2422
AIC 2.3	Developing Efficient, Coordinated Swine Production Systems	2423
AIC 2.4	Developing Efficient and Sustainable Sheep Systems	2424
AIC 2.5	Grazing Land and Forage Issues	2425
AIC 2.6	Equine Extension Program: Youth and Adult Education	2426
AIC 3.2	White Wheat Commercialization Education Program	2432
AIC 4.1	Crop Management and Marketing	2441
AIC 4.2	Risk Management Education	2442
AIC 4.3	Livestock Management and Marketing	2443

AIC 5.1	Enhancing Information Exchange through Digital Technologies	2451
AIC 5.2	Precision Ag Technologies	2452
AIC 5.3	Plant Biotechnology	2453

EXPANDED OUTREACH TO UNDER-SERVED AUDIENCES AND THOSE WITH SPECIAL NEEDS

The goal within K-State Research and Extension is to involve a representative cross-section of residents in all planning and outreach activities. There are, however, several specific programs that target under-served audiences for higher levels of involvement. These programs address needs of economically disadvantaged agricultural producers, youths, families, and communities and provide knowledge, skills, and practices where needs are great.

1. Sustainable agriculture practices on small farms.

The Borrower Education Program for agricultural producers assists over 300 couples annually. This program represents a special focus on issues, questions, and problems associated with families in agriculture who must operate their farm business with the leverage of borrowed money. The audience for these educational sessions have included producers who have not traditionally attended K-State Research and Extension activities.

Special support is also provided to intensive producers who grow nitch crops, or utilize low-input or organic production methods. These producers receive instruction from K-State faculty and co-learn from each other as they try to sustain their businesses.

A farm analyst program helps producers facing financial hardship with one-on-one assistance to help assemble a good set of business records along with analysis to determine where best opportunities are likely.

Collectively these programs help producers, who are just barely surviving with their business, reduce their risks in regard to production and marketing.

2. The Family Nutrition Program (FNP)

The Family Nutrition Program offers needs-based nutrition education for school-aged children, interactive nutrition and food preparation classes, nutrition needs for seniors, and nutrition education to pregnant teens to reduce low birth weight babies. The program targets food stamp eligible individuals (more than 70,000 in 1998) with instruction on how to balance dietary needs in a family situation with limited resources. The program has improved the dietary quality as well as food budgeting, safety, and security of participants. Recent data reports FNP clients with considerable ethnic diversity: 80% Caucasian, 10% Hispanic, 6% African American, 3% Native American, and 1% Asian. The program is offered in 42 of the 105 Kansas counties.

3. Juvenile Justice Reform and Prevention Education

Since 1997, K-State Research and Extension has been an integral partner of the Juvenile Justice Authority in interpreting and educating communities, leaders, and residents about the comprehensive changes made in Kansas juvenile justice. Not only did Extension educators assist in the new planning processes in 25 of the 29 Kansas judicial districts in 1998, but also, Extension continues to be a primary resource helping identify programs of promise and educational efforts that have proven beneficial in increasing developmental assets, reducing risk behaviors and enhancing protective factors in the lives of young people and the environments in which they find themselves. This assistance represents a set of best management practices for communities.

Using the community youth development model, more than 750,000 new dollars were generated for Extension related 4-H and youth education in inner cities. Programming included alternate education centers for school drop-outs, for juvenile detention centers, for new immigrant bilingual schools, as well as working in out-of- school hours with “un-attached” youth not involved in other youth development programs or in school-related extra-curricular activities.

4. Basic Life Skills Education

Basic life skills include tasks and management skills necessary for daily living that include subject areas such as nutrition, food management and health, housing and home management, time and money management, job readiness skills, parent and family relationships, and apparel management. Many Kansans lack training in these basic skills. A life situation change, such as living on one's own for the first time, a new baby, a divorce, or the death of a spouse, can create a special need for these skills.

The basic living curriculum encompasses a broad range of subject matter content that will promote competencies in the care of self and others: (a) nutrition and health; (b) housing and home management; (c) time and money management; (d) job readiness skills; (e) parent and family relationships; and (f) apparel management. This curriculum is designed for limited resource individuals.

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Action Plans - Bold, Upper and Lower Case;
Projects - Italics

How Kansas Issues, Action Plans, and Projects Support National Goals

Goal#	1	2	3	4	5
	An agricultural system that is highly competitive in the global economy	**A safe and secure food and fiber system**	**A healthy, well-nourished population**	**Greater harmony between agriculture and the environment**	**Enhanced economic opportunity and quality of life for Americans**

AIC 1 - DEVELOP EFFICIENT, INTEGRATED CROP PRODUCTION SYSTEMS

Action Plans and *projects*:
Cropping Systems Design and Management:
Dryland cropping systems; Irrigated cropping systems; Crop lease arrangements; Crop selection techniques (i.e., calibrating and validating wheat and soybean crop models for Kansas varieties); Cropping systems economic budgets; New technologies: Tools for diagnosis, production, and solving cropping systems problems; Nutrient management strategies;
Plant breeding and genetics; Weed control; Crop production management.

Sustainable and Organic Cropping Systems:
Alternative crop and greenhouse crop enterprises; Rapid response diagnosis of horticultural plant problems; Cover crops research and development; Alternative pest control measures for vegetable crops; Impact of tillage and crop rotations on winterwheat diseases; Biological control of weeds; Orchard pest management through the use
of enhanced flowering groundcovers; Whole farm planning using indicators of sustainability.

AIC 2 - DEVELOP EFFICIENT, COORDINATED LIVESTOCK PRODUCTION SYSTEMS

Action Plans *and projects:*
Develop Efficient, Coordinated Beef Production Systems:
Cow/calf management; Efficient and safe stocker cattle procurement and marketing systems (See AIC 4); Stocker receiving programs which promote health and performance (See FNHS 1.1 Pre-harvest); Enhancing feedlot competitiveness through Total Quality Management; Grazing land management; Economic and risk management.

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Projects - Italics

How Kansas Issues, Action Plans, and Projects Support National Goals

Goal#	1	2	3	4	5

Developing Efficient and Sustainable Dairy Cattle Systems:
Improving nutrition and feed management in dairy herds; Improving reproductive efficiency in dairy cattle; Improving the efficiency of replacement dairy heifer programs; Dairy records; Wildlife damage control; Estimate of ectoparasite impact on Kansas dairy production; Developing dairy facilities or expansion plans; Managing heat stress in dairy cattle; Milking parlor performance and design; Manure system design/ nutrient management; Feeding strategies to reduce nitrogen and phosphorus passage from cow to environment; Business and risk management (See AIC 4); Labor management.

Developing Efficient, Coordinated Swine Production Systems:
Reducing feed costs; Swine facility design and management; Labor management; Developing strategic business plans; Improving productivity; Examining differences in cost of production and efficiency; Increasing the adoption and use of financial and biological records to evaluate business decisions; Developing feed quality control programs; Managing nutrient composition of swine waste; Increasing swine producers understanding of their role in producing a wholesome, safe food product.

Developing Efficient and Sustainable Sheep Systems:
Sheep management; Sheep financial management and marketing; Wildlife damage control; Grazing land and forage production management (See AIC 2.5).

Grazing Land and Forage Issues:
Grazing land water quality education; Managing invasive plants; Grazing land management; Analyzing the economics of forage systems in Kansas; Compilation and organization of forage information; Development of a reference document containing abridged "Forage Fact" sheets; Kansas forage database and Internet enhancements; Developing a forage-beef cattle systems evaluation program; Developing information pertaining to forage alternatives; Development of a database of forage quality characteristics for native rangelands in Kansas; Nutritional evaluation of grazed crop residues and subsequent tillage to remediate livestock-induced soil compaction; Summer annual forage production and utilization; Western Kansas cool season grass evaluation; Converting Conservation Reserve Program (CRP) grass stands to haying and grazing; Effect of lespedeza on forage production and cattle performance in a crabgrass-wheat

double crop system.

Equine Extension Program: Youth and Adult Education:
Equine youth program; Equine reproductive management.

AIC 3 - ENHANCE THE VALUE OF KANSAS AGRICULTURAL GOODS

Action Plans *and projects:*
White Wheat Commercialization Education Program:
Grower meetings; Industry segment meetings.

AIC 4 - DEVELOP AGRICULTURAL RISK MANAGEMENT STRATEGIES

Action Plans *and projects:*
Crop Management and Marketing:
Statistically examine existing databases of Kansas land values and cash rents and construct others, if needed, that could provide needed benchmarks for producers, appraisers, lenders, and agribusinesses; Collect, analyze, and disseminate information on existing landlord/tenant rental arrangements (because of the variance across geographical regions in Kansas); Procedures for determining profit-maximizing, acceptable rental agreements between producer tenants and their landlords; Procedures for determining appropriate bids for land purchases; Financial risks associated with alternative land ownership and rental arrangements; Construct per acre machinery investment and depreciation benchmarks appropriate for farm managers and lenders; Determine relationship between farm level machinery costs and custom rates published by Kansas Agricultural Statistics; Construct a Geographical Information System (GIS) historical database of important Kansas economic and production criteria for policy analysis and educational purposes; Construct a model for using remote sensed satellite imagery to predict economic well-being in Kansas, which would supplement other predictive models of Kansas farm income; Research the profitability and risk associated with alternative crop marketing strategies; Research and educate around the profitability and risk associated with crop and tillage selection in Kansas (economics of cropping systems); Economics of alternative irrigation systems and water use management for irrigators; Effectiveness of financial and efficiency ratios (e.g., debt-to-assets, return on

equity) as measures of profitability and survivability for Kansas farms and agribusinesses.

Risk Management Education:
Risk Management Clubs and educational programming for counties without clubs.

Livestock Management and Marketing:
Sources of economic risk in livestock production; Economic risks associated with alternative production systems and production variability; Economic risk associated with livestock waste management and alternative waste management policies; Livestock record keeping, benchmarking, and cost control; Identification of individual risk bearing ability; Alternative business financial and organizational arrangements for livestock producers; Personnel and labor management for livestock producers; Estate planning and inter-generational livestock business transfer; Improved access to livestock marketing and management information; Livestock price analysis and forecasting; Evaluation of livestock marketing systems and alternatives; Economic efficiency and productivity of Kansas livestock operations.

AIC 5 - DEVELOP AGRICULTURAL TECHNOLOGIES AND INFORMATION SYSTEMS

Action Plans *and projects:*
Enhancing Information Exchange through Digital Technologies:
Level playing field; Wide Area Networking (WAN); Mediated learning faculty instruction; Information use assessment; Express CD-ROM; K-State Research and Extension Web; Kansas State Fair Web-based data system; Distance learning; Diagnosis at a distance; Digital streaming; Digitally-based decision support system.

Precision Ag Technologies:
Optimizing crop production inputs; Developing and evaluating new technologies that allow producers to increase profitability and environmental consciousness; Establishing a precision agriculture users group.

Plant Biotechnology:
Biotechnology education; Biotechnology product evaluation and application to

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Projects - Italics

How Kansas Issues, Action Plans, and Projects Support National Goals

Goal#	**1**	**2**	**3**	**4**	**5**

Kansas agriculture; Development of new biotechnology; Development of new crop varieties and germplasm.

FNHS 3 - DEVELOP NEW, APPEALING FOOD PRODUCTS

Action Plans *and projects:*
Developing and Evaluating New, Appealing Food Products:

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Projects - Italics

How Kansas Issues, Action Plans, and Projects Support National Goals

Goal#	**1**	**2**	**3**	**4**	**5**

Provide technical assistance to processors; Produce yogurt using modified starches (i.e., corn and wheat) as the stabilizer; Determine sensory characteristics of products; Develop new consumer testing methods.

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How Kansas Issues, Action Plans, and Projects Support National Goals

Goal#	**1**	**2**	**3**	**4**	**5**

FNHS 1 - PROMOTE A SAFE FOOD SUPPLY FROM PRODUCTION TO CONSUMPTION

Action Plans and *projects*:
Promote a Safe Food Supply from Production to Consumption–Pre-Harvest:
Identify food production and management practices that minimize violative residues of added or naturally occurring toxicants and promote quality assurance (See AIC 1); Identify food production and management practices that minimize growth, shedding, and spread of pathogens (See AIC 1); Identify and provide veterinarians and producers with information and assistance to develop biosecurity plans for food production systems that minimize the risk of introduction, exposure, and spread of zoonotic, foodborne, and animal pathogens (See AIC 1).

Post Harvest Food Safety;
23 projects to: Study the effects of physical and chemical treatment of meat and meat products on spoilage and pathogenic microorganisms; Develop rapid methods to detect, isolate, identify, and enumerate microbes in meat and meat product; Develop rapid, reliable techniques to monitor chemical residues and eliminate those residues in animal tissues; and Hazard Analysis and Critical Control Point (HACCP) education, implementation, and evaluation for Kansas meat and poultry plants.

Food Safety for Consumers, Food Service, and Retail Stores
Food safety education for food service managers and employees, child care providers, occasional quantity cooks, Master Food Volunteers, fresh fruit and vegetable growers, and targeted Latino consumers; 3rd-6th graders through development of an interactive food safety CD, and consumers who experience the mass media food safety program.

FNHS 2 - PROMOTE HEALTHIER AND SAFER LIVES

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Action Plans - Bold, Upper and Lower Case;
Projects - Italics

How Kansas Issues, Action Plans, and Projects Support National Goals

Goal#	1	2	3	4	5
		Action Plans and *projects*: **Promote Healthier and Safer Lives:** *Expanded Food and Nutrition Education Program (EFNEP); Family Nutrition Program and Kansas Nutrition Network, Promoting optimal health and well-being in young, middle-aged, and older adults; Improving and treating chronic disease problems; Healthy indoor air for Kansas homes; Creating safe, accessible homes for elderly and disabled persons; Improving nutrition education materials including Web sites on KSU's OzNet; Intentional injury (i.e., violence) reduction and prevention; Stress management and reduction; Effects and relationships of specific nutrients on health; Using stages of change model to promote consumption of grains, vegetables, and fruits by young adults.*			

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How Kansas Issues, Action Plans, and Projects Support National Goals

Goal#	**1**	**2**	**3**	**4**	**5**

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How Kansas Issues, Action Plans, and Projects Support National Goals

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NREM 1 - ENSURE QUALITY AND CONSERVATION OF SURFACE WATER AND GROUNDWATER

Action Plans and *projects*:

Water Quality - Reducing Pesticide Contamination of Surface Water in Kansas:
Farmer and pesticide dealer adoption of pesticide Best Management Practices (BMPs); Using surface water monitoring to understand surface water contamination in the Kansas-Lower Republican River Basin; Developing and evaluating pesticide BMPs.

Development and Delivery of a Kansas Environmental Leadership Program:
Development of effective leadership to assist communities in the implementation of water protection measures.

Water Conservation and Management in Crop Systems:
Design and management of Subsurface Drip Irrigation (SDI) systems for soybean production; Hydraulic analysis of SDI system and components; The South Central Kansas Irrigation Management Project (SCKIMP); Irrigation scheduling and demonstration for efficient water use by corn in western Kansas; Demonstration of BMPs to avoid groundwater pollution from application of manure to cropland; Corn yield response to planting date, Hybrid maturity, tillage, and irrigation rate; Infield variation of water fluxes for use in site-specific irrigation management; Application uniformity from LDN type center pivot nozzles; Optimal management of irrigation wells with insufficient capacity to meet peak corn water use rates; Irrigation with animal waste effluent and SDI; Water application uniformity from center pivot irrigation system nozzles.

Household & Livestock Water Conservation & Livestock Waste Management:
Septic systems and home waste management; Alternative runoff control practices for Confined Animal Feeding Operations (CAFO); Black Vermillion Watershed Dairy Environmental Cooperative; Demonstration of BMPs to avoid groundwater pollution from application of manure to cropland; Evaluation of lagoons for

containment of animal waste; Swine manure application to Kansas soils; Fecal coliform contamination in Kansas river basins: Monitoring and development of BMPs; Use of the analysis of antibiotic resistance of fecal streptococci as a means of tracking source of fecal contamination.

NREM 2 - PROMOTE COMMUNITY AND RESIDENTIAL ENVIRONMENTAL MANAGEMENT

Action Plans *and projects:*
Home and Community Environmental Management;
Integrated solid waste management; Large scale composting of municipal, industrial, and agricultural wastes; Beneficial direct application of organic waste products to agricultural land; Waste management in food processing and food service operations.

Horticultural Lawn and Garden Management:
Residential horticultural education; Efficient use of resources; Pest management strategies; Information access; Improving recycling of horticultural materials.

NREM 3 - DEVELOP SYSTEMS FOR IMPROVED SOIL AND AIR QUALITY

Action Plans *and projects:*
Preserve and Improve Soil Quality:
Network of native grassland (and woodland) sites to establish baseline data and a chrono-sequence of climatic effects on selected solid quality variables; Cropping system effects on soil quality parameters–systematic sampling; Educational material development for K-80 public education; Assessments of biological properties for soil quality; Soil quality test development and interpretation for Kansas farms; Soil quality assessment in golf course management; Return of CRP to cropping; Dryland cropping systems; Soil erodibility as influenced by CRP; Soil quality as influenced by wind erosion.

Environmental Air Quality Issues Associated with Agricultural Operations:
Ventilation and air quality in enclosed buildings; Swine confinement, dust characterization, and biological response; Effects of windbreaks on fugitive dust emissions; CD-ROM case studies to enhance agriculture and veterinary medical

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How Kansas Issues, Action Plans, and Projects Support National Goals

Goal#	**1**	**2**	**3**	**4**	**5**

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How Kansas Issues, Action Plans, and Projects Support National Goals

Goal# **1** **2** **3** **4** **5**

YFCD 1 - BUILD STRONG, HEALTHY COMMUNITIES

Action Plans *and projects:*
Developing Effective Leadership:
Capacity building; Leadership Excellence and Dynamic Solution (LEADS); 21st Century Leadership in a Learning Organization.

Creating Economic Opportunity in Kansas Cities and Counties:
PRIDE; Economic development strategies, roles, and leadership; Economic development policy and practice; Access to applied research, technical analyses, and analytic tools; Data resources for the Kansas economy; Building a healthy economy.

Kansas Local Governments: Meeting the Challenges of the 21st Century:
Local public finance education; Local government revenue and expenditure database and public finance education; Local economic, social, and demographic data for planning; Community and economic development information and referral; Natural resource management; Public policy education; Advanced technologies for local government education and use; Managing controversial public policy; Technical assistance for better local economic policies and public service provision; Collaboration for public service delivery; Local impacts of public policy; State policy analysis.

High Quality Affordable Childcare;

Better Housing for Stronger Communities:
Kansas housing template; Kansas housing partners; Census 2000 information.

YFCD 2 - IMPROVE PARENTING SKILLS AND FAMILY RELATIONSHIPS

Action Plans *and projects:*
Basic Living Skills *encompass a broad range of subject matter to develop competencies in nutrition and health, housing and home management, time and*

ISSUES - BOLD, ALL CAPS;
Action Plans - Bold, Upper and Lower Case;
Projects - Italics

How Kansas Issues, Action Plans, and Projects Support National Goals

Goal# **1** **2** **3** **4** **5**

money management, job readiness, parent and family relationships, and apparel management.

Families and Divorce:
*Adopting parental actions that minimize negative effects of restructuring the family; Identifying personal and family social support networks***.**

Basic Parenting: A Principles/Skills Approach:
*Based on the National Extension Parent Education Model's six key areas of parenting***.**

YFCD 3 - PREPARE YOUTH TO BE RESPONSIBLE CITIZENS

Action Plans *and projects:*
Preparing Youth to be Responsible Citizens through Volunteer Development:
Volunteer Information Profile (VIP) system; Leadership and management skills; Roles, responsibilities, and opportunities of volunteers.

Preparing Youth to be Responsible Citizens through Learning Experiences:
4-H curriculum; Project leader notebooks; Lesson plans; Recognition program; Project Essential.

Preparing Youth to be Responsible Citizens through Youth Involvement:
Developing Youth Involvement training; Organizing an annual Leadership Forum for Kansas 4-H Youth Leadership organization.

Preparing Youth to be Responsible Citizens through Workforce Skill and Career Competency Development;

Preparing Youth to be Responsible Citizens through Expanded Outreach:
Youth development models; Collaboration; Non-school youth development programs; Delivery models to meet the needs of different cultures.

ISSUES - BOLD, ALL CAPS;
Action Plans - Bold, Upper and Lower Case;
Projects - Italics

How Kansas Issues, Action Plans, and Projects Support National Goals

Goal#	**1**	**2**	**3**	**4**	**5**

YFCD 4 - BALANCE DEMANDS OF WORK, FAMILY, COMMUNITY, AND TIME FOR SELF

Action Plans and *projects*:
Promote a Balanced Lifestyle that Includes Time for Work, Family, Community, and Self
Media campaign featuring eight skills (i.e., goal setting, time management, conflict management, communication, decision-making, organization, delegation, and stress management) to take Kansans through awareness to taking action.

YFCD 5 - DEVELOP CONSUMER AND FINANCIAL MANAGEMENT SKILLS

Action Plans and *projects*:
Consumer and Financial Management Skills.
High School Financial Planning Program; Women's Financial Information Program; Earned Income Credit; State of Poverty welfare simulation; Money 2000+; Master Money Managers.

ISSUES - BOLD, ALL CAPS;
Action Plans - Bold, Upper and Lower Case;
Projects - Italics

How Kansas Issues, Action Plans, and Projects Support National Goals

Goal#	**1**	**2**	**3**	**4**	**5**

ISSUES - BOLD, ALL CAPS;
Action Plans - Bold, Upper and Lower Case;
Projects - Italics

How Kansas Issues, Action Plans, and Projects Support National Goals

Goal#	**1**	**2**	**3**	**4**	**5**

Youth, Family, and Community Development

Issue YFCD 1 -
Build Strong, Healthy Communities

Building human capacity is a key ingredient in addressing many problems that communities face today. The complexity of issues facing communities requires people from various backgrounds with different perspectives and skills to work together on issues involving their common interests.

Local leaders need the skills to bring people with diverse interests together, develop a shared vision, and set goals that achieve results. Many counties find it challenging to recruit new officers and find committee chairs for a club or organization, leaders for youth groups, or volunteers for boards or community task forces. Those counties may lack a pool of identified leaders—with the skills, abilities, and interests for organization and local government responsibility.

Expanding human capacity is fundamental to economic development, leadership, affordable housing, quality child care, a skilled workforce, and welfare reform.

Vision Statement:
K-State Research and Extension is committed to expanding human capacity by delivering educational programs and technical information that result in improved leadership skills in the areas of communication, group dynamics, conflict resolution, issue analysis, and strategic planning that can enhance the economic viability and quality of life in communities.

Performance Goals:
1. More Kansans will be involved in community and organizational activities.
2. Citizens will have more confidence to participate in public affairs and have more opportunity for public dialogue and civic action.
3. Kansans will increase understanding of city and county functions and their local economy.
4. There will be increased communication among all community members.
5. Community groups will work together toward goals established through a strategic planning process.
6. Volunteer leaders will be recruited and trained to work on community issues affecting children, youths, and their families.
7. Community groups will develop effective partnerships and coalitions.
8. Local officials and development organizations will be more informed and effectively use resources in areas related to economic development; finance; development strategies; community economic analysis; and social, economic, and fiscal impacts.

Outcome Indicators:
*Increased capacity of community members to fulfill public roles.
*Increased knowledge and understanding of local government and economic development.

Output Indicators:
*500 Kansans will participate in new community leadership programs by 2003.
*Fifteen local economic development practitioners and 30 elected local government officials will participate in the Local Economic Development Institute training.
*Updated Kansas Input-output Model.
*Kansas Housing Template evaluated.

Anticipated Impacts:
Kansas communities will improve the quality of life for all citizens through increased local involvement.

Key Program Components:
(See Matrix)

Target Audiences:
Community groups, current and potential community leaders, volunteers and members of voluntary organizations, elected local government officials, and local economic development practitioners.

Issue YFCD 2 -
Improve Parenting Skills and Family Relationships

Kansas families have not been immune to trends that affect families throughout the nation. The Kansas Annual Summary of Vital Statistics indicates that first-time marriages for both partners have made up fewer than half of the marriages in Kansas since 1985. The state divorce rate has consistently been higher than the national rate. Although the divorce rate showed a slight decrease in the mid-1990s, nearly 11,000 minor children were affected by their parents' marriage dissolution in 1995. Over 85,000 children live in one-parent homes, and over 45,000 children under the age of 18 live in stepfamilies.

The employment rate of both parents working outside the home also follows the national trends. Over 61% of Kansas mothers with children under the age of six are in the labor force and over 70% of mothers with children ages 6-18. Despite this trend, Kansas families have had no increase in real income since the mid-1970s because costs related to housing and maintaining a family have risen.

Kansas families have grown smaller, 3.08 persons per family, following the national trend for declining birth rates. However, teen pregnancy is a concern. Kansas experienced an increase in live births to unmarried teens in 1995. Among the teens who became pregnant that year, 2% were under the age of 15. Two-thirds of the known fathers were 20 years old or older.

Prior to welfare reform, almost one in five Kansas children received some form of economic assistance. The growth of female headed households with children has contributed to this trend. A woman's level of education, years in the labor market, and overall earning power as compared to a man's have created increasing numbers of children growing up in poverty. The impact of welfare reform has yet to be measured.

Families are mobile, often living away from their extended families and having few supportive community networks. Other family issues confronting community leaders are welfare reform changes, adequate quality child care options, increasing juvenile court loads, and changing state and national government support.

Vision Statement:
K-State Research and Extension is committed to developing and delivering education that contributes to effective parenting and successful family relationships.

Performance Goals:
1. Families will identify family assets that characterize successful functioning families throughout the life span.
2. Couples will recognize the importance of effective communication skills in maintaining a lifelong commitment to each other.
3. Individuals in communities will be more supportive and less blaming of parents who are experiencing difficulty with their children.
4. Parents who feel isolated and misunderstood will experience more support in their communities.
5. Communities will assess child care needs, work environments, and other social supports that enhance strong family relationships.
6. Parents will become more capable of evaluating information and making decisions about nurturing and guiding their children.
7. Fathers will recognize their importance for children and will commit to making a significant investment in their children's lives.

Outcome Indicators:
*Increased competency of individuals to achieve personal and family goals.
*Improvements in family health and well-being attributed to learned skills.
*Improved communication between parents.

Output Indicators:
*A Basic Life Skills curriculum.
*Personal and family social support networks.

Anticipated Impacts:
Kansas children will be raised in nurturing families and communities. Parents, caretakers, and surrounding adults will all take responsibility in bringing up healthy, caring children.

Key Program Components:
(See Matrix)

Target Audiences:
Adult individuals and family members seeking basic skills information, divorcing parents especially parents in court mandated classes, parents of children of all ages with special emphasis on at-risk parents.

Issue YFCD 3 -
Prepare Youth to Be Responsible Citizens

Kansas youth are vulnerable to increased pressures and situations because of current and emerging changes in society, including exposure to ever-increasing amounts of information of varying degrees of quality and accuracy; lack of clear-cut boundaries and enforcement of those boundaries; changes in family structure and ways of living; and changes in community and world structures. The result is the continued need for youths to be supported in learning the skills they need to handle change successfully and to become responsible citizens.

Vision Statement:
K-State Research and Extension's school-aged youth education program, 4-H, is committed to equipping youth with the life skills (i.e., decision making, communication skills, commitment to community, genuinely earned self esteem, inquiring mind) necessary for them to be capable, contributing members of their community and the world.

Performance Goals:
1. Youth will be able to set goals, work toward them, assess their progress, and achieve those goals.
2. Youth will show respect for people and property indicated by decreased juvenile offenses.
3. Youth will be increasingly accepted as assets in their communities and involved as equal partners in planning and problem solving.
4. Employers will report that entry-level youth workers are better prepared with skills and attitudes that contribute to the workplace.
5. Young people will be better prepared for their future roles as parents as a result of cross-aged mentoring as teens.
6. Youth will practice healthier behaviors that support individual, family, and community well-being.
7. More youth will be supported by their families in positive activities.
8. Youth will take pride in where they live by being involved in community service.

Outcome Indicators:
*Youths who genuinely earn self-esteem through participation in character building opportunities.
*Volunteers who serve as positive role models and mentors for young people.
*Decreased juvenile offenses.
*Increased opportunities for youth involvement.
*Youths who are valued partners in their communities.
*Increased number of youths with workplace skills.

Output Indicators:
*Increased public awareness that Extension programming promotes healthy youth development.
*A balanced youth recognition system..
*Additional 4-H curriculum (i.e., project leader notebooks).

Anticipated Impacts:
Kansas youths will be prepared physically, mentally, and socially to be contributing citizens. They will have a positive relationship with a caring adult, be safe from physical and emotional harm, provide service for others, be more self-directing with a stronger sense of self-worth, improve their future efforts through encouragement and positive feedback, and be active participants of their family, neighborhood, town, city, state, and nation.

Key Program Components:
(See Matrix)

Target Audiences:
4-H community clubs and project clubs, school enrichment, special interest groups, Juvenile Justice teams, day care centers, after school programs, in-school 4-H clubs, children's homes and homeless shelters, detention centers, youth and adult volunteers.

Issue YFCD 4 -
Balance Demands of Work, Family, Community, and Time for Self

Studies show that in today's complicated society, the high demands placed on individuals by their jobs and their families are taking a toll. The lack of balance in work and family responsibilities, both real and perceived, has resulted in stress-related conditions becoming the number-one debilitating factor in the workplace.

Balance in this context means distributing one's time, energy, and other resources across several important areas of life and in ways that make people feel fulfilled and in touch with their priorities. The ways resources are allocated to achieve balance will differ from person to person, but the importance of achieving balance is universal.

In addition, internal and societal expectations add to increasingly stressful situations. Many people believe that they are too busy both at home and at work. People who work long hours and have family and community responsibilities may not have the time, energy, or desire to add more commitments to an already hectic schedule. They may feel that employers and families expect more of them than they can give. Relationships can both ease and complicate stress.

Research shows that when employees do not manage the stress created by these imbalances, businesses and organizations can feel the effects. Organizations and individuals that seek to remedy the effects of overwhelming demands, high frustration, and imbalances in personal and professional time of their workers have increased returns in higher morale and productivity and decreased health complaints and turnover. Successful management of work life and family life is of benefit to individuals, families, and society.

Vision Statement:
K-State Research and Extension is committed to promoting a balanced lifestyle that includes time for work, family, community, and self.

Performance Goals:
1. Individuals will acquire skills that foster positive interaction among work, family, and community responsibilities.
2. Individuals will identify personal issues that impact on work/family interaction and develop skills to confront situations arising from those issues.
3. Individuals will assess and address potential risks associated with imbalance of personal, family, community, and work roles.
4. Individuals will take action to achieve balance in their personal, family, community, and work roles.

Outcome Indicators:
*Increased skills (i.e., goal setting, time management, conflict management, communication, decision-making, organization, delegation, stress management) that foster positive interaction among work, family, personal, and community responsibilities.

Output Indicators:
*Development of marketing plan and promotional materials.

Anticipated Impacts:
Individuals and families will manage their time and lives better resulting in balanced lifestyles that include time for work, family, community, and self. The results will include reduction in domestic violence, divorce, stress related matters, and mental problems.

Key Program Components:
(See Matrix)

Target Audiences:
Individuals, employers, and volunteers interested in the effect of balance on personal, family, community, and work roles especially single adults, men, and families with school-age children.

Issue YFCD 5 -
Develop Consumer and Financial Management Skills

Changing economic conditions, fluctuating employment patterns, demographic shifts, increased complexity in the marketplace, and advances in technology impact family well-being and alter how individuals and families make decisions. Deregulation of financial institutions and major tax law changes have altered—and in some cases expanded—the estate planning, investment, insurance, home purchase and sale, and retirement planning alternatives available. These changes have increased the importance and difficulty of financial decisions.

Fluctuating economic conditions can create financial and emotional stress for individuals and families, but those with low incomes often face the greatest challenges.

The use of consumer credit has increased dramatically in the past several years. Potential impacts for families include increased financial pressures, higher interest and credit card fees, greater payment delinquencies, increased bankruptcies, and higher rates of marital discord and disruption.

Retirement income has traditionally been visualized as a three-legged stool—with Social Security representing one leg, pensions another, and private savings and investments the final leg. However, many people are questioning whether Social Security will provide more than minimal assistance to retired workers in the future. With limited pension coverage and a shift toward pension plans primarily funded by voluntary employee contributions and managed by the employee, it becomes even more important for individuals and families to take responsibility for insuring an adequate retirement income. At the same time, expanded investment options, marketing and promotion, and fraud necessitate sound, readable, objective (non-promotional) educational materials.

Because young people exercise control over (and influence the use of) considerable amounts of money, and will continue to do so throughout their lives, it is important that they develop sound consumer and financial skills early in life. Several studies suggest that teens lack basic economic and money management skills. Yet, the ability to manage personal finances remains basic to survival as young people graduate from high school; establish a residence; get married, have children, and establish households; pursue college or vocational training; and start their careers.

Vision Statement:
K-State Research and Extension is committed to providing accurate and current educational programming to individuals and families to enable them to improve their consumer and financial management skills and improve their current and future financial situation.

Performance Goals:
1. Individuals and families will become more knowledgeable about their finances and make informed choices and decisions.
2. Individuals and families will examine their financial situation, identify problem areas, set measurable goals, identify and evaluate alternatives, implement a plan, and evaluate and monitor progress toward achieving their goals (e.g., debt reduction, increased savings and investments, purchase of a home, increased contributions to retirement plan).
3. Teens participating in the High School Financial Planning Program will improve their financial knowledge and skills and develop a personal financial plan.

Outcome Indicators:

*Increased knowledge and positive behavior changes as a result of involvement in the consumer and financial management programs.

Output Indicators:

*Increased participation in the High School Financial Planning Program.

Anticipated Impacts:

Individuals and families will improve their consumer and financial management skills and current and future financial situation.

Key Program Components:

(See Matrix)

Target Audiences:

Individuals and families in need of basic financial information, high school students through networks among county Extension agents and teachers with responsibilities in Family and Consumer Sciences, women in precarious financial positions due to divorce, separation, death of a spouse, or little or no work force experience outside the home.

Food, Nutrition, Health, and Safety

Issue FNHS 1 -
Promote a Safe Food Supply from Production to Consumption

The goal of food-safety programs is to prevent foodborne illnesses. Between 6.5 million and 81 million cases of foodborne illnesses, including 9,000 deaths, occur each year in the United States. The level of illness reported in Kansas is low, but the reporting system is not an active one, and it is a well-known fact that foodborne illnesses are greatly under-reported. Experts believe the risk of foodborne illness is increasing due to multiple factors. In Kansas in 1996, 7.1 million head of cattle were slaughtered and processed, and 5.1 million cattle were finished (23% of the U.S. total). Kansas had 1.5 million beef cows for reproduction, and 4.4 million calves and feeder cattle were imported into the state. Kansas, in 1996, ranked second nationally with 255 million bushels of wheat production. Kansas ranked first in wheat flour milling capacity and flour milled with over 36 million hundred weights milled. Kansas also is a major producer of grain sorghum, corn, and soybeans, with over 750 million bushels of collective production among those grain crops. Fresh vegetable and fruit production through local markets are expanding interests in Kansas. In addition, Kansas has some 20,000 licensed foodservice operations and about 500 meat and non-meat food-processing facilities.

Vision Statement:
K-State Research and Extension is committed to developing integrated programs and practices that provide a safe food supply from production to consumption.

Performance Goals:
1. Crop and livestock producers will increase awareness and assess potential food-safety hazards at the farm and field level.
2. Meat, grain, and other processors will use improved technologies and practices in support of state and federal initiatives in food safety.
3. Wholesalers, marketers, and distributors will adopt procedures to minimize food-safety hazards associated with the handling, transportation, and storage of foods.
4. Retail markets will adopt food sanitation and safety procedures to minimize food-safety hazards in their operations and risks to consumers.
5. Commercial and noncommercial (institutional) food-safety operations will adopt food sanitation and safety procedures to minimize food-safety hazards in their operations and risks to consumers.
6. Consumers will practice safe food handling and sanitation to control organisms and prevent foodborne illnesses.

Outcome Indicators:
*Reduction in reported cases of foodborne illness.
*Improved food production and management practices.
*Full compliance with USDA HACCP guidelines.

Output Indicators:
*Food safety consumer education and mass media for Latino audiences.
*Food sanitation and safety procedures to minimize food-safety hazards in commercial and institutional food-safety operations.
*Biosecurity plans for food production systems.
*Technology for rapid identification of infectious agents and toxins.
*Carcass and product intervention strategies.
*Distance learning programs for small and very small meat and poultry processing operations.

Anticipated Impacts:
Integrated crop and livestock practices will provide a safe food supply from production to consumption. Food processors will operate in full compliance with HACCP guidelines.

Key Program Components:

(See Matrix)

Target Audiences:
Commercial and noncommercial food service operations; wholesalers, marketers, and distributors; meat, grain and other processors; veterinarians; crop and livestock producers; fruit and vegetable growers; Master Food volunteers; and consumers.

Issue FNHS 2 -
Promote Healthier and Safer Lives

Kansans are concerned about their personal health and safety as well as that of their families and communities. Statewide surveys, forums, and other data have revealed that citizens have a keen interest in programs delivered by local and state organizations.

Public health planning documents, such as Healthy Kansans 2000, call for reductions in the incidence and prevalence of certain types of morbidity and mortality. The Kansas Department of Health and Environment has the following seven priority areas: Alcohol and Other Drugs; Cancer; Coronary Artery Disease; HIV and Other Sexually Transmitted Diseases; Maternal and Infant Health; Unintentional Injury and Violence; and Vaccine-Preventable and Other Infectious Diseases. Of these, cardiovascular-pulmonary diseases, cancer, and cerebrovascular disease leading to strokes account for 63% of Kansas' deaths—primarily preventable by adopting healthy and safe lifestyles.

Eating disorders and other weight issues are increasing problems. Arthritis affects 40 million Americans and osteoporosis is present in 9 of 10 women and 1 in 3 men by age 75.

Tobacco use increases risk for many diseases, including lung cancer and emphysema. Currently, 22% of Kansans smoke and more youths are using tobacco products. Alcohol and drug abuse is common, especially inappropriate use of medications and over-the-counter drugs by the elderly and binge drinking by youths and young adults. Fourteen percent of adult Kansans engage in binge and heavy drinking.

Exposure to environmental hazards (e.g., lead, radon) in their homes can also be a cause of illness and death for Kansans. Other environmental hazards can result in health problems for people with asthma and allergies or in death from carbon monoxide.

Mental health, stress management, and related issues are areas of concern for several groups. A broad range of health and safety challenges face agriculture related worksites, farm families, and rural communities. Agriculture related lifestyles and occupations rank high in terms of risks for stress, injury, disability, and death.

Access to care and health care costs are major concerns. Limited resource and near poverty individuals and families, those without health insurance, the very young, and the aged are most at risk for poor health and early death.

Vision Statement:
K-State Research and Extension is committed to promoting healthy lifestyles and well-being and preventing disease and injuries for Kansans of all ages, life stages, and income levels.

Performance Goals:

1. Young Kansans (from prenatal to young adulthood) will achieve optimal health and development. This can include but is not limited to:
   A. Decreasing risks for low birth weight, infections, hunger/food insecurity, and undernutrition;
   B. Preventing eating disorders and/or overweight;
   C. Preventing or postponing the early development of chronic diseases; and
   D. Preventing unintentional injuries such as falls and poisonings.
2. Young and middle-aged Kansans will experience improved nutrition, physical and mental health, and lower incidence of injuries and early death. This can include but is not limited to:
   A. Healthy eating and exercise patterns to improve health and delay or prevent chronic diseases;
   B. Identifying optimal needs, effective conventional and alternative interventions, motivators of behavior change, and effective educational programs;
   C. Decreasing use of alcohol, tobacco, and addictive drugs;
   D. Preventing violence, abuse, and sexually transmitted diseases;
   E. Improving personal stress management and mental health; and
   F. Preventing intentional and unintentional injuries at home and at work.

3. Older Kansans will experience improved well-being and a higher quality of life. This can include but is not limited to:
   A. Postponing or treating chronic diseases;
   B. Improving mental health to prevent or cope with depression, dementia, and life changes and stresses;
   C. Making appropriate and effective uses of conventional and alternative health treatments;
   D. Practicing safety at home and away from home;
   E. Improving ability to access affordable, quality health care; and
   F. Decreasing use of alcohol, tobacco, and other harmful drugs.

Outcome Indicators:
*Improved personal health and safety.
*Savings in future health care costs.
*Reduced number of low birth weight babies.

Output Indicators:
*Development of a series of nutrition-related Web sites on KSU's OzNet.
*Number of students/schools participating in Body Walk.

Anticipated Impacts:
Kansans will live healthier lives through wellness strategies such as increased exercise, improved nutrition, safety awareness, and prevention of diseases and injuries.

Key Program Components:
(See Matrix)

Target Audiences:
Low income individuals and families, especially those with young children; individuals and families of all ages who qualify to receive food stamps; older Kansans; FCE groups, parents, teachers, and employers; disabled; kindergarten through 4th grade students; young to middle-age adults.

Issue FNHS 3 -
Develop New, Appealing Food Products

Economic well-being of Kansans can be improved by facilitating the use of resources to develop and market healthful food products from locally produced commodities.

Rudimentary mechanisms have been established to facilitate development of novel, nutritious, and appealing food products.

The need exists to strengthen links and form effective networks among entrepreneurs, established businesses, researchers, marketing experts, extension personnel, and regulatory agents for the development of new food products other than gift market items.

Research is needed to understand functionality and interactions of ingredients for safe, nutritional, consumer-appealing foods. Understanding consumer needs and their interpretation is necessary to assure appealing food products.

Vision Statement:
K-State Research and Extension is committed to helping Kansans use their products in healthful, profitable ways.

Performance Goals:
1. Kansas producers will increase numbers of successful new Kansas products.
2. Developers and producers will assess the technological and economic feasibility of product formulations that maximize microbiological, sensory, and nutritional quality.
3. Producers of new food products will demonstrate increased knowledge of emerging issues and of state and federal regulations.
4. Marketing plans will be developed concurrent with release of new products.
5. Increased consumer sensory input will assist product developers to achieve longer lasting marketability of developed products.
6. Product developers will increase understanding and use appropriate experimental design for efficient development of quality food products.
7. New sensory and consumer testing methods will be established and additional research on current methods will be conducted.
8. Food scientists and food product developers will increase knowledge of functionality of food ingredients for improvement of food products.

Outcome Indicators:
*Number of successful new Kansas products.

Output Indicators:
*Technical assistance to Kansas processors.
*Development of new sensory and consumer testing methods to better understand product quality and acceptance.

Anticipated Impacts:
Kansans will modify existing and develop new products which are healthy and add value to Kansas commodities.

Key Program Components:
(See Matrix)

Target Audiences:
Food processors; developers and producers of food products; food scientists.

Natural Resources and Environmental Management

Issue NREM 1 -
Ensure Quality and Conservation of Surface Water and Groundwater

Water is an important economic and natural resource for Kansas. Surface water systems exist throughout the state and are recharged by rainfall, thus they are the predominant water supply within the eastern half of the state. Groundwater resources exist primarily within south central and western Kansas and are the predominant water resource within those areas of the state. While aquifers also are recharged by rainfall, deep aquifers like the Ogallala in western Kansas typically recharge very slowly, and withdrawals often exceed recharge. Therefore, management will help to extend the life of those aquifers. Some shallow aquifers such as in central Kansas are recharged by rivers and streams and can be sustainable systems through proper management. Wastewaters are a viable resource for irrigation but require careful management for irrigation system operations and to maintain favorable soil and surface water quality.

Kansas surface waters have multiple uses that include drinking, recreation, and irrigation. The 12 major river basins in Kansas have contaminants that create water quality concerns, according to a Kansas Department of Health and Environment (KDHE) report (January 12, 1995). The report identifies frequent contaminants as pesticides, fecal coliform, atrazine, nitrogen, suspended solids, chloride, and sulfate. In addition, surveys of private water wells show that a high percentage, perhaps 80%, of farmstead wells have deficiencies in location and construction that contribute to poor water quality and potential health risks. Roughly one-third of the private wells in Kansas contain *E. coli* and/or high nitrate and pose a significant health risk. About 60% of private wells do not meet safe drinking water standards for public water.

The Clean Water Act of 1972 and Safe Drinking Water Act of 1974 are the major Federal statutes that establish the water quality programs for the United States. The Clean Water Act establishes water quality and water pollution goals for the nation. The principal objective of the Safe Drinking Water Act is to assure that water distributed by public water supplies is safe. Beyond the regulatory component is the fact that it is in the best interest of production agriculture—as a major user of water—to conserve and ensure the quality of Kansas water resources.

Vision Statement:
K-State Research and Extension is committed to developing and promoting technology and management systems that will ensure water quality and efficient use of Kansas water resources.

Performance Goals:
1. Surface water and groundwater resources will approach sustainable levels.
2. Crop producers will adopt dryland and irrigated crop production schemes (crops, hybrids, tillage, irrigation systems, and cultural practices) that will use available water resources more effectively (e.g., reduce risk of surface runoff and leaching of nutrients, pesticides, and sediments from cropland).
3. Rangeland and livestock managers will use appropriate range and grazing management practices, improved feed formulations, facilities design, and waste management systems to reduce the impacts on water quality.
4. Current irrigation system technology and management practices will be understood and adopted in order to use and allocate water more efficiently.
5. Reuse of waste water resources will increase without long-term soil quality, surface water quality, or irrigation system degradation problems.
6. Community leaders and private landowners will assess urban public and private lands for potential risks of current practices for causing water quality degradation and develop action plans to minimize such risks.

Outcome Indicators:

*Improvements in water quality.
*Increased adoption of Best Management Practices.
*Pesticide and other contaminate runoff will be reduced in the Kansas-Lower Republican River.
*Increased crop yields.
*Increased water use efficiency.

Output Indicators:

*Number of participants in educational programming about Pesticide Best Management Practices.
*Development of Subsurface Drip Irrigation system design and management guidelines.
*Development of strategies for use with waste water resources.
*Development and installation of demonstration systems (e.g., wetlands, vegetative filters, infiltration fields for livestock feeding sites).

Anticipated Impacts:

Kansans will use technologies and management systems that will ensure water quality and efficient use of Kansas water resources.

Key Program Components:

(See Matrix)

Target Audiences:

Crop and livestock producers, dairy farmers and cooperatives, pesticide dealers, environmental agencies, watershed districts, crop and livestock commodity groups, irrigation system managers, crop consultants, government agency personnel, agricultural industry representatives.

Issue NREM 2 -
Promote Community and Residential Environmental Management

Because of concerns for clean water and other urban and community environmental legislation, communities recognize the importance of dealing with solid-waste issues and in developing solid-waste-management plans. Various issues face landfills on solid-waste accumulation, including costs, composition of products delivered to landfills, siting landfill locations (Not In My Backyard), volume of materials communities generate for efficient disposal, and complying with various state and federal legislation and guidelines. About 20% of materials delivered to landfills are yard wastes and food wastes that may be reduced by altered horticultural management practices. A significant amount (estimated to be 27%) of the waste stream is paper and wood, which is not likely to be recycled. With changes in food-consumption practices, food-waste disposal and/or re-use will become more critical. Nearly one-half of the waste stream is organic materials that could be composted or converted to other agricultural or horticultural uses.

There is a growing recognition that we must find better ways to deal with the garbage produced as a result of our lifestyles. Small, rural communities face different challenges than larger urban areas concerning these environmental issues and in establishing recycling and re-using programs that may require cooperation and linkages.

Challenges exist to develop home and community horticultural systems that minimize waste management problems. Proper plant material selection, management and resource utilization of plantings to reduce solid waste generation, integrated pest management practices to minimize planting losses, and safe uses of pest management practices should be promoted. Materials generated by natural disasters such as ice or windstorms must be removed.

In addition, effective disposal of household hazardous waste products must be established in all communities of all sizes in Kansas—rural and urban.

Vision Statement:
K-State Research and Extension is committed to refining environmental and horticultural waste-management practices and delivering the education required that will result in improved community and residential environmental quality.

Performance Goals:
1. Community residents will implement horticultural waste-management practices in an environmentally sensitive way.
2. Community leaders will manage organic waste to produce beneficial products or uses for the community.
3. Community leaders will explore ways of developing partnerships and cooperation in integrated waste-management systems.
4. An awareness will be created of individual contributions to and responsibility for waste products generated by individuals, businesses, and communities, including landscape and food wastes.
5. Options will be identified for converting waste products into useful products, evaluating their safety and effectiveness, and encouraging their uses.
6. Research-based information will be developed about community, economic, and health and safety issues related to waste reduction, re-utilization, and conversion to alternative uses.

Outcome Indicators:
*Increased conservation and efficiency in the use of environmental resources.
*Reduced horticultural waste in landfills.
*Increased re-utilization and recycling of home horticultural plant materials.
*Reduced public costs of waste disposal.

Output Indicators:
*Number of household hazardous waste handling facilities.
*Development of management practices to deal with horticultural pest control.
*Demonstrations of environmental benefits of community and/or on-farm composting.

Anticipated Impacts:
Local community leaders and residents will explore, implement, and manage different waste management systems. Refined environmental and horticultural waste-management practices will result in improved community and residential environmental quality. Additional horticulture materials will be used in ways that result in energy savings and water efficiency.

Key Program Components:
(See Matrix)

Target Audiences:
Community residents; horticulture producers; local compost operation managers; Master Gardener volunteers; community decision makers; producers of organic municipal, industrial, and agricultural waste.

Issue NREM 3 -
Develop Systems for Improved Soil and Air Quality

Soil quality and air quality are serious threats to the agricultural industry with potential implications for human health. This statement does not diminish water quality issues or the current economic crisis in some sectors of agriculture. Soil degradation is with us today and will be with us tomorrow, next year, and forever. Soil degradation affects Kansas, the United States, and the world. Degradation takes place through wind erosion, water erosion, acidification, salinization, loss of organic matter, compaction, and urban encroachment for residential, commercial, or public use.

Air quality is an important concern in agricultural operations, including land preparation, harvesting, grain handling, and livestock production. Dust is emitted from various field operations such as land preparation and harvesting and also from grain handling facilities. In livestock production systems, air quality issues include animal and human health concerns associated with dust and gases internal to confined livestock environments. They also include dust, odor, and possibly human health concerns associated with air quality surrounding livestock operations, including waste handling and storage facilities. All of these issues have major economic and social dimensions, including impacts on our ability to produce food and on our quality of life. Unless we address these issues, we could lose the competitiveness of our agricultural industry in the next few years. The health of the agricultural industry depends on both the quality of our soil and air.

The agribusiness industry, researchers, educators, and regulators must work together to develop cost-effective solutions. Cost implementation will be very important since air quality and soil quality abatement strategies will generally be an added cost and not improve the end value of the product. However, they will improve environmental quality, maintain our current resources, and allow us freedom to continue to raise livestock and crops with less restriction than we might otherwise enjoy.

Vision Statement:
K-State Research and Extension is committed to developing agricultural systems and delivering the information required to preserve and improve soil and air quality.

Performance Goals:
1. Farmers and ranchers will assess potential risks associated with the degradation of soil and air quality and develop strategies to minimize those risks.
2. Producers will use soil improvement practices that will increase soil organic matter; reduce wind and water erosion; and improve soil tilth and productivity.
3. Livestock producers will use Best Management Practices to minimize indoor and outdoor air quality problems.
4. Grain handlers and processors will utilize Best Management Practices to minimize air polluting emissions.

Outcome Indicators:
*Increased understanding of the relationship between management practices and soil and air quality.
*Increased adoption of Best Management Practices.

Output Indicators:
*Development of assessment tools for soil quality.
*Development of educational materials for K-80 public education.
*Development of CD-ROM based case studies about air quality to enhance agriculture and veterinary medical education.

Anticipated Impacts:
Kansas producers will increase adoption of best management practices and implement integrated agricultural systems that will preserve and improve soil and air quality.

Key Program Components:

(See Matrix)

Target Audiences:
Farmers and ranchers, feedlot operators, grain handlers and processors, middle school and high school age students in agricultural classes and/or 4-H projects, golf course superintendents and managers.

Agricultural Industry Competitiveness

Issue AIC 1 -
Develop Efficient, Integrated Crop Production Systems

Kansas crop producers face a variety of issues. Current farm legislation allows greater flexibility in crop selection. Greater use of reduced tillage systems raises questions on weed control, fertilization practices, and efficient rotations. Pathogens, pests, and environmental stresses also reduce crop yields. New technologies, such as precision ag and biotechnology, present new management challenges. Concerns with aquifer depletion, water quality, and soil erosion demand integrated crop management systems which improve the environment.

It is important to provide Kansas crop producers with information and technical assistance on residue management techniques; crop rotation systems; production efficiency; environmentally sound use of nutrients, pesticides, and herbicides; improved cultivars; and Best Management Practices. Producers need the best crop varieties and hybrids that complement their cropping system. They also need whole farm planning information that integrates crop production with livestock production (at the farm, regional, and state level) and with marketing and risk management strategies (including alternative and new crops).

Non-farm audiences (i.e., youth, urban population) need to be educated on sound agricultural production practices.

Vision Statement:
K-State Research and Extension is committed to developing options for efficient, integrated crop production systems that will improve farm profitability through efficient use of inputs that protect natural resources and the environment while improving quality of life.

Performance Goals:
1. Producers will meet the needs of existing and emerging markets by adopting new cropping systems and new technologies.
2. The quality of life for Kansans will be improved through the adoption of Best Management Practices that increase productivity and potential profitability and protect natural resources.
3. The depletion rate of aquifers will be reduced through improved irrigation system design and irrigation practices.
4. Livestock wastes and municipal sewage will be used in crop production systems in an efficient, profitable, and environmentally sound manner.
5. Greater farm profitability will result from improved crop rotations/diversification.
6. An environment without excessive regulations will be created, with the help of producers, through a positive public and political image of agriculture.
7. Increased crop yields and minimized losses to pathogens, pests, and environmental conditions will be achieved through the development and release of new varieties and germplasms.

Outcome Indicators:
*Increased water use efficiency through adoption of effective crop cultural practices.
*Increased profitability as a result of intensifying and/or diversifying cropping systems.
*Effective use of non-renewable resources.

Output Indicators:
*Development of regional cropping systems designs.
*Identification of knowledge gaps relating to sustainable cropping systems.
*Design of irrigation systems and management plans for efficient water use and conservation.
*Development of agricultural and municipal waste utilization strategies.
*Formation of plant breeding and genetic teams by crop species.
*Research on appropriate crop selection techniques through the use of crop physiology, crop modeling, and weather modeling.

Anticipated Impacts:

Kansas producers will decrease tillage which will increase crop residue and decrease runoff. They will also increase the number of crops in rotations which will decrease inputs, such as pesticides and herbicides. These integrated crop production systems will increase farm profitability through efficient use of inputs that protect natural resources and the environment.

Key Program Components:
(See Matrix)

Target Audiences:
Crop producers and consultants, land owners and tenants, non-farm audiences (i.e., youth and urban population).

Issue AIC 2 -
Develop Efficient, Coordinated Livestock Production Systems

Kansas agricultural producers generated over $7.5 billion in farm and ranch cash receipts in 1995. Two-thirds of this income came from the sale of livestock and livestock products. Of the 66,000 total farms in Kansas, more than 46,000 handle livestock—beef cows, stockers and feedlot cattle, swine, dairy, sheep, horses, and poultry. Overall, about one-fourth of the Kansas economy stems from agricultural production, processing, and related agribusiness. While the contribution of livestock to the state's economy is huge, continued growth is likely. The beef feedlot industry has expanded by 21% in the last five years, and continued growth is expected in both the stocker and feedlot areas. The swine and dairy industries also are poised for substantial growth, especially in southwest Kansas. Nonetheless, Kansas livestock and poultry producers still face serious challenges, including production efficiency and economic competitiveness, adoption of technology, specification food production, food safety and quality assurance, animal rights, and environmental concerns. Educational programs must be designed to assist these economically vital industries to better understand and overcome those challenges.

Vision Statement:
K-State Research and Extension is committed to economically viable and sustainable livestock production systems by timely development, evaluation, dissemination, and implementation of proven management practices and technologies that will enhance the efficiency and profitability of livestock and poultry production while protecting the environment.

Performance Goals:
1. Livestock and poultry producers will demonstrate increased economic competitiveness and production efficiency through better management practices and greater utilization of current and new technologies.
2. Kansas producers will increase use of baseline enterprise data like SPA and IRM analyses and DHIA records to manage their operations more effectively.
3. Producers will improve livestock productivity (e.g., meat, milk, eggs, wool) through better understanding of the benefits of optimizing forage and grazing land utilization and feed analyses in evaluating supplementation needs, performance projections, and feed quality/nutrition parameters during harvest, storage, and consumption of feeds.
4. Producers will utilize planned land applications of livestock manure and soil fertility analyses for improved nutrient utilization, recycling, and cost savings.
5. Producers will have a greater understanding of their important role in the production of safe, wholesome, nutritious, and consistent food products demanded by consumers.

Outcome Indicators:
*Increased economic competitiveness and production efficiency through coordinated livestock, forage, and grazing land utilization and management strategies.
*Increased producer' understanding of their role in producing a wholesome, safe food product.
*Utilization of planned land applications of livestock manure and soil fertility analyses.
*Improved grazing land quality.
*Increased adoption of Good Manufacturing Practices by cow/calf producers, stocker/backgrounding operators, and feedlot managers and employees.
*Increased use by cow/calf producers of an Integrated Resource Management approach to production.

Output Indicators:
*****Development of educational programs that address cost of production, economic returns, and enterprise analysis.

*Development of a forage-beef cattle systems evaluation program.
*Development of biosecurity systems.
*Evaluation of value-based marketing options.
*Development of new methods of utilizing animal waste and reducing odor.

Anticipated Impacts:
Kansas producers will make year-round utilization of grazing lands and crop lands, while ensuring surface water quality and maintaining safe food practices. This will enhance the efficiency and profitability of livestock and poultry production while protecting the environment.

Key Program Components:
(See Matrix)

Target Audiences:
Livestock (beef, swine, dairy, sheep, horses, and poultry) producers.

Issue AIC 3 -
Enhance the Value of Kansas Agricultural Goods

Rural and urban Kansans face many challenges as the agricultural economy transitions from a price support program to one that encourages farmers to manage financial risks without deficiency payments. Every level of agriculture will feel the effects. In view of these changes and a need for Kansas agriculture to remain competitive nationally and internationally, K-State Research and Extension will focus personnel and financial resources toward enhancing new and value-added marketing strategies, product development, and uses of agricultural goods.

The Kansas economy still relies on agriculture as a major source of revenue and employment. Currently, 24% of the Kansas economy results from production agriculture, processing, and agribusiness, and 22% of Kansans work in the food production sector. Many Kansas farmers sell their products as commodities with little understanding of end-user needs. While Kansas maintains a strategic advantage for some agricultural goods, many of the agricultural raw materials produced in Kansas must be transported to major processing centers to capture value-added processing opportunities. If transportation and logistical issues are not addressed, many of the new opportunities to produce and market crops containing specialized genetics tailored to meet specific end-uses may bypass Kansans.

A need exists to provide more value for agricultural goods. To address this need, K-State Research and Extension must focus on such areas as alternative marketing opportunities through marketing networks and contracting and incorporating end-users needs in production decisions. Target audiences for this program include youth, farmers and ranchers, agricultural lenders, agribusiness leaders, processors, marketers, government agency personnel, educators, and politicians. Entrepreneurs starting in food processing need information on business and marketing plans and meeting the government regulations that surround the processing industry.

K-State faculty are exploring new uses for products and developing products that enhance the value of agricultural goods. Additional research into logistical issues will be explored, including movement of goods and products to markets where they achieve optimum value; exploration into improving processing efficiency; and providing added value through controlling variability in raw material and processes. Also needed are efforts to facilitate value-based marketing of livestock and plant products, to develop new market opportunities for specialized agricultural goods, and to explore alternative uses of agricultural lands for recreational purposes that may offer opportunities to increase revenue of rural Kansans.

Vision Statement:
K-State Research and Extension is committed to promoting the economic viability of Kansans by adding value to agricultural goods during production, marketing, handling, storage, and processing.

Performance Goals:
1. Kansas will capture a higher value for agricultural goods through value-added marketing strategies that utilize a systems approach to production (including new genetics), rapid assessment of specific quality traits, and by identity/quality preservation of these traits during storage, shipping, and processing.
2. Kansans will enhance their competitive position through improved logistics, handling, and processing of agricultural goods.
3. Producers, processors, and customers will become more knowledgeable about each others needs and will make decisions that improve product quality and profitability in response to K-State's Research and Extension outreach program.
4. New uses for agricultural products and by-products will occur, and markets for these items will be explored and developed.
5. Kansas crop and livestock producers will improve their marketing skills in response to increased knowledge of contracting, closed-cooperative programs, and end-user requirements.

Outcome Indicators:

*Increased understanding of the importance of quality and purity in grain handling and marketing.
*Improved marketing skills.

Output Indicators:

*Development of organized plan for seed producers to offer sale of white wheat varieties to Kansas wheat producers.

*Creation of plan and network for movement of identity-preserved white wheat through the grain merchandising and the grain handling segments of the industry.

*Development of production and marketing educational programs.

Anticipated Impacts:

Kansas farmers and ranchers will benefit economically from the introduction of new processes and products of the agricultural goods they produce. They will do this through developments of small business, cooperatives, and other farm driven organizations. Overall, this will improve the economic viability of Kansans by adding value to agricultural goods.

Key Program Components:

(See Matrix)

Target Audiences:

Wheat growers; seed producers; grain elevator managers/operators; millers, bakers and grain merchandisers; representatives from the Kansas Grain Inspection Service and the transportation segment of the industry.

Issue AIC 4 -
Develop Agricultural Risk Management Strategies

One of the major changes that agricultural producers face due to the passage of the 1996 Farm Bill is the change in the risk environment. Changing from the use of a target price concept, which to a large extent stabilized farm income, to a declining fixed payment with less stabilization features has increased the need for risk management research and education. Risk is defined as exposure to possible loss or injury. Risk encompasses decisions ranging from the use of life insurance, futures markets, crop insurance, and other types of insurance to the use of debt, production diversification, and human resource management.

At the same time, the agricultural industry is facing many changes, including globalization of economies, fundamental changes in environmental regulation, changes in banking law, and possible changes in tax policy. This further increases the complexity of the risk environment and increasingly makes it difficult for clientele to understand the interrelationships between the decisions they make and the range of resulting outcomes.

Vision Statement:
K-State Research and Extension is committed to developing and delivering the information required to prepare Kansas producers to effectively use risk management strategies.

Performance Goals:
1. Agricultural clientele will identify sources of risk and assess their individual risk-bearing ability.
2. Agricultural clientele will identify those risks that are most important to long-term financial stability.
3. Producers will become aware of alternative risk management tools and receive expert advice on the development of risk management strategies.
4. Producers will evaluate the costs and benefits of alternative risk management products for their operations.
5. Agricultural producers and the agricultural industry will demonstrate increased understanding of how international, macro, agricultural, food, and natural resource policies affect the risk environment.
6. Agricultural producers will understand the life cycle nature of risks.

Outcome Indicators:
*Enhanced ability of producers to understand their individual risk bearing ability.
*Increased effectiveness in the use of risk management strategies.
*Increased understanding of the ways that various policies affect the risk environment.
*Local, regional, and national partners secured to ensure current success and foster self-supporting risk management clubs.

Output Indicators:
*Establishment of additional risk management clubs.
*Increased availability of county-level value, crop share, and cash rent information.
*Construction of a Geographical Information System historical database of important Kansas economic and production criteria.
*Increased availability of information regarding the economic risks associated with adoption of new cropping and/or tillage systems.
*Identification of factors that contribute to efficiency/inefficiency of livestock operations.

Anticipated Impacts:
Kansas producers will match their farm operations to their risk bearing ability, reducing farm family stress, and use available data to make informed decisions.

Key Program Components:
(See Matrix)

Target Audiences:
Agricultural producers, land owners and tenants, appraisers, lenders, policy makers, and representatives of agribusinesses.

Issue AIC 5 -
Develop Agricultural Technologies and Information Systems

Agricultural producers are faced with more technological advances than ever before. Global positioning systems allow producers and crop consultants to pinpoint locations within a few feet. Yield monitors on combines and variable rate controllers for planters and fertilizer spreaders are becoming more prevalent. These sensors allow producers to collect an enormous amount of information for their farms. Storing and using this information will be challenging, and the rewards are unknown at this time.

Technological advances also are being seen in the area of crop and animal genetics. Genetically engineered plant and animal varieties are being planned and developed under laboratory and controlled outdoor environments. Commercialization of transgenic crops, which have extraordinary levels of insect and herbicide resistance, is now occurring. Bt corn, for example, is expected to receive widespread acceptance because it is resistant to European and southwestern corn borer and reduces the need for chemical insecticides. To extend the durability of the benefits provided by transgenic crops, complementary research must be undertaken to identify use strategies that minimize the chances that resistant pests will develop. Forums for public discussion on the perceptions and misconceptions associated with adopting these new strategies also must be held.

Exponential increases in amounts and diversity of information and changes in the way users want to access information make it imperative that K-State Research and Extension move forward aggressively with electronic information management strategies that are easy to use, convenient, flexible, thorough, impartial, and add value for clients. Digital technologies will permit data sharing, image manipulation, multi-point communication, field-portable libraries, living recommendations, and 'now you see it' demonstrations.

Vision Statement:
K-State Research and Extension is committed to delivering unbiased, research-based information that results in technological advances from production to consumption.

Performance Goals:
1. Crop producers will adopt new technologies that allow more efficient use of inputs to enhance profitability and reduce environmental risk.
2. Digital technologies will be extensively employed to enhance learning, to meet user demands for increased convenience, and to expand the realm of options and solutions under consideration. Real-time, on-site diagnosis of production problems and immediate delivery of recommendations will become possible.
3. Community leaders and private citizens will effectively use and anticipate impacts of emerging technologies (e.g., transgenic crops and precision agriculture) on agricultural production and society at large.

Outcome Indicators:
*Increased knowledge and skills for using emerging technologies in production agriculture.
*Enhanced decision making through digitally-based approaches.

Output Indicators:
*Establishment of a precision agriculture users group.
*Improved infrastructure which permits faculty/clientele to communicate via digital means.
*New commercial plant biotechnology products.
*Development of digitally-based decision support system (i.e., soybean production prototype).
*Background support and training in digital technology for faculty.
*Express CD-ROM of all K-State Research and Extension publications.
*Level Playing Field project.

Anticipated Impacts:
Kansas crop producers will adopt new technologies that allow more efficient use of inputs to enhance profitability and reduce environmental risk.

Key Program Components:
(See Matrix)

Target Audiences:
Crop, livestock, and horticulture producers; crop consultants; community leaders; users of precision agriculture technologies; consumers of agricultural production and information.

SECTION IV. Collaboration

A unique feature within the K-State Research and Extension organization is the close alignment of research and extension. Our goal is to obtain a practice of visualizing issue solution as a continuum of research through application. The formation of action teams (Section II) strives to accomplish this organizational goal. The teams provide an environment conducive to effective interaction among faculty and an opportunity to identify new research needs and extension education opportunities. Teams comprised of research, extension, and county faculty use a common format (see Appendix B) to develop action plans.

K-State Research and Extension is committed to multi-state collaboration. Three years ago, the administrative team of the Dean/Director (AES and CES) and Associates for teaching, research, and extension personally visited the counterpart administrators in the four states contiguous to Kansas. The purpose for this series of meetings was to identify opportunities for increased collaboration. Specifically we were looking for strengths, weaknesses, and voids among the states; we found that the states have many common features and that there wasn't much opportunity to cover one's weakness with another's strength. There is a better opportunity to bring human resources together to form an effective critical mass for professional interaction; and, there is considerable collaboration in this regard.

Kansas counties work together to plan and implement programs. Agents also work with off-campus research colleagues in regard to field days, research needs, and team teaching. There are two Extension Districts which are formal clusters of two and three counties with taxing authority to generate their budgets. The Districts have a staff that is responsible for programming in all counties that are part of the District. All other counties are part of a "block" structure which provides a mechanism for counties to plan together and implement programs in a way which best utilizes each agent's strengths. It is a common practice for an agent with training and interest in a given subject to give leadership to that subject in all counties in a "block." This practice is used primarily for proactive program delivery; reactive work is generally handled by agents within their own county.

All faculty (agents, researchers, extension specialists, and administrators) participate in regional and national meetings of their professional societies. The greatest benefit of these meetings is to stay current with the science of their discipline and to know colleagues with similar interests. Issues tend not to be local, but rather are statewide, regional, or even national concerns. So professional meetings are an important way for faculty to stay connected with colleagues and to learn about research and outreach methods that are effective in helping address issues.

K-State Research and Extension faculty participate in about 44 Multistate Research (NC) projects (several include extension faculty as well as research and faculty with joint appointments), about 39 coordinating and information exchange (NCR) committees, and 14 administrative (NCA) committees which help the directors set goals and priorities which they assure are met by a formal review process for NC, NCR, NCT, and NRSP projects.

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 in January action team meetings. 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 the 16 issue statements; 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 (see Appendix C) is used to guide reviewers through the peer review process.

Extension program leaders from Kansas, Nebraska, South Dakota, and North Dakota meet on a regular basis to develop joint program opportunities for these four states. Programs impacting all four states have been developed as a result of these regular planning meetings. To increase the effectiveness of programs in these states, the program leaders exchange plans of work in agriculture and natural resources, family and consumer sciences, youth, and community resource development programs. Program leaders review plans of work of the other states for both content and methodology and opportunities for further collaboration. This process further accomplishes merit review goals.

An additional aspect of collaboration that contributes to the overall effectiveness of K-State Research and Extension is the on-going working relationship among universities, governmental agencies, foundations, and private organizations in Kansas.

Tables 1-3 demonstrate the nature of collaborative activities and quantify the time commitments faculty estimate they contribute to each effort. As these were developed, it became apparent that the value of the effort was not in accountability but in identifying the high level of connectedness that has been achieved with many, many partners.

Table 1

Collaborative Multi-state Extension Programs.

Name	KSU department	Title of program	Collaborating states	Collaborating extension scientists	No. of days on activity	REE Goal No.
Adams, James	4-H Youth Programs	Nat'l Livestock Ethics Council	ID & 20 Land-Grants	Tom Goodwin	11	5
Adams, James	4-H Youth Programs	4HCCS	MN, NC, AZ & 32 Land-Grants	T. Zurcher, E. Maxa, L. Lauxman	22	5
Adams, James	4-H Youth Programs	Results Mapping Evaluation	NE, MO, NC ECOP Region States	G. Heusel, J. Turner	3	5
Adams, James	4-H Youth Programs	National Ag in the Classroom	OK	D. Jackson	3	5
Addison, Conall	SW Area/4-H Youth Programs	Sheep	OK	J. Hughes, W. Shearhart, J. Fitch	4	5
Addison, Conall	SW Area/4-H Youth Programs	Rabbits	OH, TX, & ARBA	J. Dick, J. Schaefer, C. Hooks, K. McCracken, G. Blackman, C. Blackman	7	5
Alam, Mahbub & Team	SW Area Bio & Ag Engineering	Tri-State Irrigation Meeting	CO, NE	I. Broner	21	4
Aramouni, Fadi	Animal Sciences & Industry	Food Safety	NE	M. Brashears	10	2
Aramouni, Fadi	Animal Sciences & Industry	Better Process Control School	NE	D. Smith	4	2
Barker, Walter	SW Area/4-H Youth Programs	NAE4-HA Programs Comm	IL	S. Lignell	7	5
Barker, Walter	NW Area/4-H Youth Programs	Aerospace	AL	T. Cook	4	5
Barnaby, G.A. (Art)	Ag Economics	Nebraska Farm Policy Task Force Meeting	NE	Roy Fredrick	2	1
Barnaby, G.A. (Art)	Ag Economics	Risk Mgmt/Train the Trainer Session & Conf Planning Mtg	NE, CO (plus 19 private companies)	Doug Jose, Norman Dalsted	4	1

Name	KSU department	Title of program	Collaborating states	Collaborating extension scientists	No. of days on activity	REE Goal No.
Barnaby, G.A. (Art)	Ag Economics	Risk Management Agency/ Extension Advisory Council Meetings	MI, AR, FL, MS, KY, SC, TX, DE, MO, CSREES-RESD	R. Black, R. Coats, A. Meerow, J. Robinson, J. Skees, D. Smith, K. Stokes, H.D. Tilmon, V. O'Conner, D. West	5	1

(table continues)

Barnaby, G.A. (Art)	Ag Economics	Crop Insurance and Disaster Aid Meeting	ND, NE, SD	Staff Of...Senator Conrad, Senator Bob Kerrey, Senator Daschle, and Senator Pat Roberts	4	1
Barton, David	Ag Economics	KS Coop Development Ctr & Great Plains Coop Development Consortium	CO, MO, NE, OK, TX (plus 8 industries in these states)	S. Hine, M. Cook, M. Turner, P. Kenkel, E. Smith (plus 8 industry contacts)	15	1
Beyer, Scott	Animal Sciences & Industry	Central States Poultry Consortium	OK, MO, AR	J. Berry, J. Firman, D. Clark	6	1
Beyer, Scott	Animal Sciences & Industry	Midwest Poultry Federation	IL + NC States	G. Webber	21	1
Beyer, Scott	Animal Sciences & Industry	National Poultry Database	MD, CA, USDA, OH, AR	M. Latour	2	1
Blasi, Dale	Animal Sciences, Agronomy, Ag Economics	Forage / Livestock	MO, IA, NE	M. Massengale	12	1
Bode, Marilyn	Apparel, Textiles & Interior Design	Five-State Comparison of Public Participation in Waste Mgmt Prog	NE	Shirley Niemyer	3	4
Bode, Marilyn	Apparel, Textiles & Interior Design	Builders, Remodelers, and Indoor Air Quality Handbook	SC, VA, NJ, MT	C. Dewitt, K. Parrott, J. Ponessa, M. Vogel, J. Wysocki	4	5
Bode, Marilyn	Apparel, Textiles & Interior Design	Health Indoor Air for America's Homes Notebook Revision	AK, NY, NJ, MT, VA	R. Seifert, J. Laquata, J. Ponessa, M. Vogel, K. Parrott	10	5
Bode, Marilyn	Apparel, Textiles & Interior Design	Healthy Indoor Air for America's Homes, Satellite Broadcast	NY (Cornell)	J. Laquatra	5	5
Bode, Marilyn	Apparel, Textiles & Interior Design	House Planning Handbook	IA	M. Yearns	5	5
Boyle, Liz	Animal Sciences & Industry	Meat Food Safety	NE	D. Burson	10	2
Buchholz, Daryl	Agriculture	NCR Sustainable Agriculture	NE	E. Dickey	15	1, 4
Buchholz, Daryl	Agriculture	NC ANR Program	OH	S. Baertsche	10	1, 4
Buchholz, Daryl	Agriculture	NCR CRD	IA	C. Flora	5	5
Buchholz, Daryl	Agriculture	4-State Extension Conference	ND, SD, NE	D. Lundstrom	45	5
Buchholz, Daryl	Agriculture	4-State Program Coordination	ND, SD, NE	D. Lundstrom	6	5

Clarke, Mary	Foods & Nutrition	Health Eating for Life-- Curriculum	OH, NC, MO	A. Saddam, J. McClelland, W. Hait	20	3
Cress, Don & PIAP Team	Entomology	Pesticide Impact Assessment	IA, CO, NE, OK, MO	S. Brown, S. McDonald, S. Kamble, J. Criswell, G. Smith	85	1, 4
Cress, Don	Entomology	National Pesticide Information Retrieval System (NPIRS)	IN	E. Luke	3	1, 4
Cress, Don & PAT Team	Entomology	Pesticide Applicator Training	IA, CO, NE, OK, MO	S. Brown, S. McDonald, L. Schulz, J. Criswell, F. Fishel	224	1, 4
Darling, David	Ag Economics	National Small Store Institute	IL, MO	Norma Turok	20	5
Darling, David	Ag Economics	Take Charge Self Help Manual	IA, MO, VT	Julie Stewart, Mary Simon Leuci, Fred Schmidt	20	5
Darling, David	Ag Economics	4-State Heartland Community Development Conference	OK, AR, MO	Notie Lansford	12	5
Delano, Fredrick	Ag Economics	KS Farm Mgmt Profitlink Program	CO	Mary McPhail Gray/James Dawson	30	1
Devlin, Dan & Team	Agronomy	Improving Water Quality in the Blue River Basin of KS & NE	NE	Tom Franti	70	4
Dhuyvetter, Kevin	Ag Economics	Risk Management Handbook	TX	Dean McCorkle	5	1
Dhuyvetter, Kevin	Ag Economics	NC Beef Cattle Handbook	IA	Daryl Strohbein, ISU (Proj Ldr)	2	1
Dhuyvetter, Kevin	Ag Economics	General Farm Management & Marketing	MO	Joe Parcell	5	1
Domsch, Ann	SE Area/4-H Youth Programs	True Colors	CA	C. Jennings	2	5
Fisher, Steven	4-H Youth Programs	National 4-H Congress Design Team	NC, AR, GA & 12 Land-Grants	M. Davis, S. Anderson, D. Morris, G. Hadley	22	5
Flinchbaugh, Barry	Ag Economics	North Central Public Policy Education Committee	IA, North Central States	M. Edelman	2	1
Flinchbaugh, Barry	Ag Economics	Confined Animal Feeding Operations Task Force	IA	M. Edelman	4	1
Flinchbaugh, Barry & Team	Ag Economics	Risk Management Education	TX	Knutson, Smith	30	1
Flinchbaugh, Barry	Ag Economics	National Public Policy Education Committee/Conference	OR, all 50 States	J. Burridge	4	1

Fultz, Pat	4-H Youth Programs	Youth Prog. Risk Management	NE	J. Fox	2	5
Fultz, Pat	4-H Youth Programs	Camp Counselor Training	MO	M.J. Williams	2	5
Fultz, Pat	4-H Youth Programs	NC Volunteer Specialists	WI, NC ECOP Region States	L. Kustka	4	5
Fultz, Pat	4-H Youth Programs	Outdoor Education	VPI, AR, NC	L. Henderson, K. Coggsdale, C. Marie, J. Schoultz	6	5
Fultz, Pat	4-H Youth Programs	Volunteer Development	NE	V. Greve, J. Fox	2	5
Fultz, Patricia	4-H Youth Programs	Volunteers: the Foundation of Youth Dev Internet Training Site	MO, ND	M. Williams, M. Lesmeister	11	5
Fultz, Patricia	4-H Youth Programs	National 4-H Shooting Sports	Clemson Univ	D. Smathers	11	5
Fultz, Patricia	4-H Youth Programs	Leadership Initiatives for Educators	VA, NC, AR, OH	K. Coggsdale, C. Hannon, L. Henderson, C. Wurth	22	5
Fultz, Patricia	4-H Youth Programs	North Central 4-H Volunteer Leader Forum	12 NC Land-Grants, 3 Southern Land-Grants & 3 Western Land-Grants		55	5
Gerhard, Gary	4-H Youth Programs	4HCCS	MN, NC, AZ, CO + 33 Land-Grants	D. Blythe, T. Zurcher, E. Maxa, L. Lauxman, D. Steele	22	5
Gerhard, Gary	4-H Youth Programs	AFA	MO & 15 private companies	R. Weathers	8	5
Gerhard, Gary	4-H Youth Programs	Nat'l 4-H Impact Proj Steering Committee	AZ, MA & 27 Land-Grants	B. Peterson, A. Titcomb, S. Mieklicki	22	5
Gerhard, Gary	4-H Youth Programs	NC 4-H Program Leaders	WI, NC ECOP Region States	G. Hutchins	6	5
Goodband, Bob & Team	Animal Sciences & Industry	CSU Swine Day & Swine Meetings	CO	Dennis Lamm	61	1
Hargrove, William	KS Ctr for Ag Res & the Enviro	Small Public Water Supplies	IL	Midwest Tech Asst Ctr for Small Public Water Supplies/US EPA	12	4
Harner, Joe & Team	Bio & Ag Engineering	Cooperative Stored Grain Project	NE	G. Hoffman	20	1
Higgins, Randy & Team	Entomology	Area Wide Corn Rootworm Management Program	IA, IN, IL, SD	Marlin Rice, Rich Edwards, Kevin Steffey, Larry Chandler	40	1

Higgins, Randy & Team	Entomology	NC-205, Management of Stalk-boring Pests of Corn Project	IA, IN, IL, SD	Marlin Rice, Rich Edwards, Kevin Steffey, Larry Chandler	85	1
Jardine, Doug & Team	Plant Pathology	High Plains Sunflower Production Handbook	CO, KS, NE, WY, USDA	R. Meyer, D. Baltensperger, J. Krall, M. Vigil, D. Lyon, D. Nielsen, S. Pilcher, F. B. Peairs, B. Hein, D. Kaan, H. Schwartz, K. Hellevang	3	1
Jardine, Doug	Plant Pathology	Soybean Cyst Nematode Coalition	IL, IN, IA, MI, MN, MO, NE, ND, OH, SD, WI	W. Kirby, J. Ferris, G. Tylka, G. Bird, W. Stienstra, P. Donald, T. Powers, B. Nelson, R. M. Reidel, M. Draper, C. Grau	5	1
Jardine, Doug & Team	Plant Pathology	Midwest Planning Service - Conservation Tillage Systems & Mgmt	KS, OH, IL, MN, NE, WI, IA, IN, MO, ND, OK, TX, TN, GA, USDA	R. Reeder, B. Rein, J. Siemens, K. Janni, D. Shelton, R. Schuler, J. Moore, J. Johnson, G. Rehm, W. Casady, J. Baker, S. Melvin, R. Taylor, J. Wright	3	4
Jardine, Doug	Plant Pathology	North Central Integrated Pest Management Coordinators	KS, NE, SD, ND, MN, IA, MO, IL, WI, IN, MI, OH	K. Wright, D. Deneke, M. Mcmullen, K. Ostlie, J. Dewitt, G. Smith, M. Gray, R. Edwards, B. Jensen, C. Edson, H. Wilson	6	1, 4
Johannes, Elaine	Office of Community Health	Open-K CSREES State Strengthening Project	AZ, MO	Sherry Betz, Ina McClain		5
Jones, Joyce	Family Studies & Human Services	Family Development & Resource Management Strategic Plan	CSREES-USDA, PN, SC, NM, FL	A. Hobbe, B. Thee, B. Thomas, D. Dickson, D. Edlow	12	5
Jones, Rodney	Ag Economics	NCR Farm Mgmt Ext Committee	MI	G Schwab, MI	8	1
Jones, Rodney	Ag Economics	Southern Region IRM Coordinating Comm	KS, NM, TX, MS, FL, AR	J McGrann (TX), R. Lloyd (NCBA)	3	1
Kastens, Terry	Ag Economics	National Economic Risk Issues	TX, AR, NE, ND	G. Nelson, E. Wales, L. Bitney, G. Flaskerud	3	1
Kastens, Terry	Ag Economics	Precision Ag, More Information/ More Control Review	NE	R. Grisso	1	1
Kastens, Terry	Ag Economics	AgMAS Review Panel	IL, IA, USDA	F. Berskins, R. Ehler, C. Hurt, R. Wisner, H. Bahn	2	1
Kastens, Terry	Ag Economics	US Custom Harvesters, Inc.	TX	E. House	12	1
Kastens, Terry	Ag Economics	Food and Ag Policy Research Institute	MO	A. Womack	1	1

Keeley, Steve	Horticulture	Turfgrass	IA, NE, MO	R. Sherman, G. Horst, R. Gaussoin, N. Christian, D. Minner	23	4
Keeley, Steve	Horticulture	Turfgrass Conferences	NE, IA	R. Sherman, G. Hortst, R. Gaussoin, N. Christian, D. Minner	23	4
Kuhl, Gerry	Animal Sciences & Industry	4-State Beef Conference	NE, MO, IA	R. Rasby, J. Thompson, D. Strohbehn	2	1
Lamond, Ray	Agronomy	University of Missouri Ag-chem Shortcourse	MO	Peter Scherf, W. Barney Gordon	2	1, 4
Lamond, Ray	Agronomy	University of Missouri-Delta Center Irrigation Day	MO	Gene Stevens	1	4
Lee, Charles	Animal Sciences & Industry	Aquaculture Conference	NC Conference	T. Batterson (MI)	6	1
Lee, Charles	Animal Sciences & Industry	Wildlife Habitat Evaluation Program	AL	J Armstrong	5	4
Lee, Charles	Animal Sciences & Industry	Urban Pest Control Conference	NE	S Hygnstron	2	5
Lindquist, Lindy	4-H Youth Programs	Kansas City 4-H Global Conference	MO, NE, OK, AR, IA, SD	Sharon Hunt	33	5
Lippert, George	SE Area - Entomology	Area Wide Stored Grain Management	USDA, OK	David Hagstrum, Gerrit Cuperus, Carl Reid	30	1
Mack, Diane	NE Area/4-H Youth Programs	Urban Youth Program Mgmt	NE	C. Hendricks	2	5
Marr, Charles	Horticulture	Vegetable Educational Conference/Trade Show	NE, IA, MO	L. Hodges, H. Taber, K. Hawxby, D. Sasseville	28	4
Marr, Chuck	Horticulture	Commercial Tree Fruit Spray Guide, Comm Small Fruit and Grape Spray Guide	AR, IL, IA, KY, MO, OH, WV, WI, NE	P. Pecknold, R. Foster, B. Bordelon, P. Hirst	2	1
Marr, Chuck	Horticulture	Two-State Fruit Conference	MO	Michelle Warmund, Patrick Byers	15	4
Marr, Chuck & Team	Horticulture	Four-State Vegetable Conference	NE, IA, MO	Laurie Hodges, Henry Taber, Keith Hawxby, David Sasseville	28	4
Marston, Twig	Animal Sciences & Industry	Central Bull Testing (Beef Improvement Federation)	SD	D. Boggs	15	1

Marston, Twig	Animal Sciences & Industry	Beef Improvement Federation	SD	D. Boggs	10	1
Marston, Twig	Animal Sciences & Industry	IRM SPA Database & Teaching	TX	Dr. J. McGrann	5	1
McFarland, Marcia	4-H Youth Programs	Army School Age & Teen Project	VA, AZ	Jay Mancini	220	5
Miller, Rick & Team	NE Area	Metro-KC Horticulture Education Info-line	MO	G. Kinder	14	4
Murphy, Pat & Team	Bio & Ag Engineering	Midwest Plan Service	IA	Jack Moore	38	1
O'Brien, Dan	NW Area-Ag Economics	Central Great Plains Dryland Cropping System Workshops	CO, NE, USDA-Akron	Gary Peterson, Drew Lyon, Randy Anderson	10	1
O'Brien, Dan & Team	NW Area-Ag Economics	Central Plains Irrigation Short Course	CO, NE	Israil Broner, Dean Yonts	7	4
O'Brien, Dan & Team	NW Area-Ag Economics	Development of High Plains Sunflower Production Handbook	CO, NE, WY, USDA-Akron	Ron Meyer, David Baltensperger, Jim Krall, Randy Anderson	35	1
O'Mara, Judith	Plant Pathology	Midwest Tree Fruit Pest Management Handbook	IL, IA, KY, MO, OH, WI	P. Hirst	2	4
O'Mara, Judith	Plant Pathology	Distance Diagnosis	MO, NE, IA, OK	B. Corwin, L. Giesler, P. Flynn, B. Hudgins	10	1
Olsen, Charlotte	Family Studies & Human Services	National Extension Marriage and Couples Ed	CSREES-USDA, WY, VT, TX, MN	A. Kobbe, B. Silliman, J. Branch, R. Hoffman, M. Alberts	2	5
Patton, Dennis	NE Area	Metro-KC Horticulture Education	MO			4
Regehr, David	Agronomy	Evaluating Herbicide Placement Effects on Weed Control	MO	Bill Johnson	10	1
Regehr, David	Agronomy	Comparison of Weed Management Systems for Field Corn	MI	Jim Kells	5	1
Regehr, David	Agronomy	Effect of Duration of Weed Competition on Corn Yields	OH	Mark Loux	5	1
Reid, Bill	Horticulture	Nut Production	MO	Gene Garrett	75	1
Rife, Charles	Agronomy	Canola Germplasm Testing	CO, NE, TX, MO	D. Johnson	220	1
Schafer, Dave	Animal Sciences & Industry	National 4-H & FFA Meat Contest	MO & National	A. Clarke (MO) & T. Bucher (MO FB)	10	5

Schafer, Dave	Animal Sciences & Industry	Pork Meat Science, Short Course	NE	D. Burson	20	2
Schafer, Dave	Animal Sciences & Industry	KANEB Processed Meat Short Course	NE	D. Burson	10	2
Schapaugh, Bill	Agronomy	Soybean Germplasm Testing & Coordination	MO			1
Scheneman, Steve	Prof. Development	NC NELD	IL, NC Region	J. Oliver	36	5
Sears, Rollie	Agronomy	Wheat Germplasm Testing & Coordination	NE			1
Smith, John	Animal Sciences & Industry	Midwest Dairy Management Conference	NE, ND, MN, IA, MO, WI, IL, MI, OH	M. Schultz	2	1
Smith, John & Brouk	Animal Sciences & Industry	Western Dairy Management Conference	OK, NM, AZ, CA, CO, ID, WA, UT, OR, WI, TX		15	1
Smith, John & Brouk	Animal Sciences & Industry	Heart of America Dairy Management Conference	MO, NE, AR, OK		3	1
Spaeth, Cliff	Animal Sciences & Industry	Sheep Education	NE	Steve Gramlich, Tom Drudik	12	1
Stevens, Alan	Horticulture	Distance Education Floriculture Nutrition	OK, NE	J. Dole, J. Fitzgerald	15	1
Taylor, Randy & Team	Bio & Ag Engineering	Mid-Central Precision Ag Conference	MO	Don Pfost	23	1
Tokach, Mike	NE Area-Animal Sciences & Ind	National Pork Producers Council	IA, NC, NE, MO, GA	L. Christian, O.W. Robinson, R. Johnson, T. Safranski, J. Mayberry	10	2
Tuinstra, Mitch	Agronomy	KS-NE Grain Sorghum Conference	NE	G. Hopp	2	1
White-Huling, Martha	NE Area/4-H Youth Programs	NAE4-HA Diversity Taskforce	MD	H. Jackson	4	5
Whitney, David	Agronomy	NCR-13 Regional Soil Testing Work Group	ND, SD, NE, MO, IA, MN, WI, MI, IL, IN, OH	J. Johnson, G. Rehm, D. Frantz, M. Vitosh, K. Kelling, J. Gerwing, S. Brouder, B. Ho.eft, G. Hergert, P. Schrok, J. Sawyer	3	1
Whitney, David	Agronomy	NCR-103 Regional Work Group On Non-traditional Soil Additives	ND, SD, NE, MO, IA, MN, WI, MI, IL, IN, OH	J. Johnson, G. Rehm, D. Frantz, M. Vitosh, K. Kelling, J. Gerwing, S. Browder, B. Hoeft, G. Hergert, P. Schrok, J. Sawyer	3	1

Whitney, David	Agronomy	Soil-plant Analysis Workshop	OH, MI, SD, MN, IA, WI, IL, NE, PN, ND	M Watson, M Nathan, R. Gelderman, S. Brander, A. Mellenna, L. Cillacek, D. Werneke, G. Rehm, T. Peck, K. Frank	3	1

Table 2

06-22-99 Coordinated Multi-state Research and Extension Committees - FY2000 Kansas Representatives.

Proj#	Title	Collaborating states	KSU rep	KSU dept	SY	REE Goal No.
NRSP-003 (IR-7)	The National Atmospheric Deposition Program	National Project	Knapp, A.	Biology	0.1	1, 4
NRSP-004 (IR-4)	A National Ag Program to Clear Pest Control Agents for Minor Use	National Project	Cress, D.	Entomology	0.1	1
NRSP-007	A National Ag Program to Approve Animal Drugs for Minor Species and Uses	National Project	Oehme, F.	Clinical Sciences	0.1	1
NRSP-008	National Animal Genome Research Project	National Project	Troyer, D.	.Anatomy/Physiol	0.1	1
NC-007	Plant Germplasm and Information Management and Utilization	IN, IA, KS, NE, OH, IL, MI, MN, MS, ND, SD, WI	Rife, C. Tuinstra, M.	Agronomy Agronomy		1
NC-062	Enteric Diseases of Swine and Cattle: Prevention, Control and Food Safety	AZ, IL, IN, IL, KS, MI, MN, MO, NE, OH, SD, PA, WA, NADC, USCS, U-IA, MN-MED	Nietfeld, J.	Diag Med/Patho	0.3	1
NC-094	Impact of Climate and Soils On Crop Selection and Management	GA, IN, IA, IL, KS, MI MN, MO, NE, ND, OH, SD	Langemeier, M. Ransom, M. Vanderlip, R.	Agricultural Economics Agronomy Agronomy	0.1 0.1 0.2	1
NC-100	MRF Administration, Planning, and Coordination	IL, IN, IA, KS, MI, MN MO, NE, ND, OH, SD, WI	Ham, G.	AES	NA	NA

Proj#	Title	Collaborating states	KSU rep	KSU dept	SY	REE Goal No.
NC-107	Bovine Respiratory Diseases	CA, IL, IN, IA, KS, LA, MI, MN, MS, MO, NE, ND, OH, OK, SD, TN, TX, WI	Minocha, H.C.	Path/Micro Path/Micro	0.1 0.4	1
NC-113	Methods to Increase Reproductive Efficiency in Cattle	IL, IA, KS, MI, MO, OH, WI	Stevenson, J.	Animal Sciences	0.6	1
NC-119	Management Systems for Improved Decision Making and Profitability of Dairy Herds	AL, AZ, CA, FL, GA, IL, IN, IA, KS, MI, MN, MO, NE, NH, NM, NYC, OH, PA	Shirley, J. E.	Animal Sciences	0.2	1
NC-125	Biological Control of Soil Borne Plant Pathogens	ARS, IA, IL, IN, KS, MI, MN, ND, OH, WI	Garrett, K.	Plant Pathology	0.3	1

NC-129	Fusarium Mycotoxins in Cereal Grains	GA, IL, IN, IA, KS, MI, MO, NE, ND, PA, WI, USDA-ARS, CANADA	Donnelly, B.	Grain Science	0.3	1, 2
NC-142	Regulation of Photo-Synthetic Processes Processes	AZ, FL, GU, IL, IA, KS, MI, MN, MO, NE, NV, OR, PA, WA, WI, USDA-ARS	Guikema, J. A.	Biology	0.4	1
NC-167	Role of N3/N-6 Polyunsaturated Fatty Acids in Health Maintenance	CA, CO, IN, IA, KS, LA, MI, MN, NE, OH, OR, TX, WI	Reeves, R.D.	Foods & Nutrition	0.3	3
NC-185	Metabolic Relationship in Supply of Nutrients for Lactating Cows	AL, AZ, CA, FL, IL, IN, IA, KS, KY, MD, MI, MN, MO, NH, ND, OH, PA, SC, UT, WA, WI, USDA/DFRC, USDA/RN	Shirley, J.E.	Animal Sciences	0.2	1
NC-189	Forage Protein Characterizations and Utilization for Beef Cattle	AR, IL, IZ, KS, MI, MN, MO, NE, ND, OH, OK, WI, USDFRC	Cochran, B.	Animal Science	0.3	1
NC-205	Ecology and Management of European Corn Borer and Other Stalk-Boring Lepidoptera	DE, IL, IA, KS. KY, MD, MA, MI, MN, MO, NE, NYG, NC, ND, OH, PA, SC, TX, WI	Higgins, R. Buschman, L.	Entomology SW Res/Ext Center	0.4	1, 4
NC-210	Positional and Functional Identification of Economically Important Genes in the Pig	IL, IA, KS, MI, MN, NE, OK, USDA/ARS, UT/BYU	Troyer, D.	Anatomy/Physiology	0.2	1
NC-213	Marketing and Delivery of Quality Cereals & Oilseeds	ID, IL, IN, IA, KS, MI, MN, MT, NE, OH, TX, WA, WI, USDA/ERS, USDA/ARS	Herrman, T. Tilley, K.	Grain Science Grain Science	0.1 0.1	1
NC-215	Overwinter Survival of Heterodera, Pratylenchus, and Associated Nematodes in the North Central	AR, IL, IN, IA, KS, MI, MN, MO, NE, ND, SD, WI	Todd, T.	Plant Pathology	0.8	1, 4
NC-216	The Adoption of Sustainable Farming Systems: Implications to Agricultural Education	IA, IN, KS, MI, MN, ND, OH, WI	Harbstreit, S.	Adult Education	0.2	1, 4, 5
NC-218	Characterizing Nitrogen Mineralization and Availability in Crop Systems to Protect Water Resources	CA, IL, IN, IA, KS, MI, MN, MO, NE, OH, SD, WI, USDA/ARS	Rice, C. Schmidt, J.	Agronomy Agronomy	0.3 0.2	1, 4
NC-219	Using Stages of Change Model to Promote Consumption of Grains, Vegetables, and Fruits by Young Adults	AZ, IA, KS, ME, MI, NY (Syracuse), NE, OH, OR, DC, WI	Peters, P.	Foods and Nutrition	0.2	3
NC-221	Financing Agriculture & Rural America: Issues of Policy, Structure & Technical Change	AR, FL, IL, IN, IA, KS, KY, MN, MI, NYC, ND, OH, SD, TX, Bank Res. of Kansas City, USDA/ERS	Featherstone, A.	Agricultural Economics	0.4	1, 5

NC-224	Competitiveness and Value-added in the U.S. Grain and Oilseed Industry	AR, GA, IL, KS, LA, MN, MS, NE, ND, OH, OK, OR, USDA/ERS, USDA/ACS	Stiegert, K.	Agricultural Economics	0.1	1
NC-225	Improved Grazing systems for Beef Cattle Production	IA, KS, MO, NE	Blasi, D. Fritz, J. Cochran, R. Jones, R.	Animal Sciences Agronomy Animal Sciences Agricultural Economics	 0.1 0.2 0.2	1
NC-227	Ergot: a New Disease of U.S. Grain Sorghum (Replaces NC-501)	KS, IN, OK, NE, IA, TX, MN, MO	Tuinstra, M. Kofoid, K. Claflin, L.	Agronomy Ag Res. Center - Hays Plant Pathology	0.2 0.2 0.4	1, 4
NE-144	Forage Crop Genetics & Breeding to Improve Yield and Quality	CANADA, IA, KS, KY, MN, NYC, SD, WV, USDA-ARS	Amand, P. C.	Agronomy	0.9	1
NE-165	Private Strategies, Public Policies, & Food Systems Performance	AR, CA, CTS, FL, GA, IL, IN, IA, KS, KY, LA, MD, MA, MI, MN, MT, NE, NH, NJ, NYC, NC, OH, RI, TX, VA, WI, USDA/ERS, USDA/RBS, USDA, AMS, USDA/PSA, CDCP, FDA, GAO	Fox, S.	Agricultural Economics	0.2	2
NE-185	Commodities Consumers and Communities: Local Food Systems in Globalizing Environment	CA, IA, KS, LA, ME, MI, MN, MO, NJ, NYC, NC, PA, PR, TX, WA, WV, WI, Wallace Inst. for Alternative Agr.	Bloomquist, L.	Soc/Anthropology	0.4	1, 5
S-259	Rural Labor Markets in the Global Economy	AR, GA, IA, KS, KY, LA, MD, MI, MN, MS, NYC, OH, PR, NC, SC, WI, AL, HUNTSVILLE, USDA/ERS	Goe, R.	Soc/Anthropology	0.4	5
S-272	Development of Textile Materials for Environmental Compatibility and Human and Health Safety	AL, AR, GA, IN, KS, KY, LA, MS, NE, NC, TN, WI, ARX, LAX, FL STATE U.	Gatewood, B. Ramaswamy, G.	Apparel, Textiles Apparel, Textiles	0.6 0.5	1, 2, 4, 5
S-274	Integrated Management of Arthropod Pests of Livestock and Poultry	CA, AL, AR, FL, GA, IA, IN, IL, KS, KY, LA, MN, MO, NE, NH, NM, NC, ND, NYC, OK, PA, TN, TX, WY, USDA-ARE, FLX, Canada	Broce, A. Nechols, J.	Entomology Entomology	0.2	1
W-082	Pesticides and Other Toxic Organics in Soil and Their Potential for Ground Water Contamination	AZ, AR, USDA-ARS, CA, FL, HI, IA, IN, KS, MN, MT, NV, TVA, NMIMT, NYC, WA	Xia, K.	Agronomy	0.3	4

W-102	Integrated Methods of Parasite Control for Improved Livestock	ARS, AZ, CA, FL, IA, KS, LA, MN, MO, MT, UT, VA, WA	Ridley, R.K.	Path/Micro	0.4	1
W-112	Reproductive Performance in Domestic Ruminants	AZ, CA, CO, HI, ID, KS, MN, MO, MT, NV, NM, OH, OR, TX, WA, WY	Grieger, D.	Animal Science	0.2	1
W-128	Micro-Irrigation Management Practices to Sustain Water Quality & Agricultural Productivity	ARS, AZ, CA, CO, GU, HI, IA, KS, MI, NM, OR, TX, VA, WA, WY	Lamm, F.R. Clark, G.	Northwest Rec Bio/Ag Engineering	0.1 0.5	1, 4
W-130	Freeze Damage and Protection of Fruit and Nut Crops	CA, CO, FL, GA, IN, MD, MI, MN, OR, SD, UT, WA, WV, WI, USDA/ARS	Rajashekar, C.	Hort/Forestry	0.2	1
W-168	Seed Biology & Technology Investigations	AZ, CA, CO, FL, IA, KS, KY, LA, MT, NYG, NYC, NC, OH, OR, UT (Brigham Young U), VA, WA, USDA/ARS, USDA/FS	Jennings, P.	Horticulture	0.2	1
W-170	Chemistry and Bio-Availability of Waste Constituents in Soil	ARS, CANADA, CA, CO, FL, HI, IA, KS, MI, MO, MT, OH, WA, WI, WY	Pierzynski, G.M.	Agronomy	0.3	4
W-173	Stress Factors of Farm Animals and Their Effects on Performance	AZ, CA, CO, HI, IA, KS, MS, MO, NE, NYC, OR, TN, TX, UT, USDA/ARS	Minton, J.E. Blecha, F.	Animal Science Anatomy/Physiology	0.3 0.2	1
W-177	Domestic & International Marketing Strategies for US Beef	CA, CO, ID, IA, KS, NE, NV, NM, OK, SD, TX, UT, VA, WA, WY, USDA/ARS, USDA/ER	Grunewald, O.C. Kastner, C.	Agricultural Economics Animal Science	0.1 0.2	1, 5
W-185	Biological Control in Pest Management Systems of Plants (Replaces W-084)	AZ, CA, GU, HI, ID, KS, MT, NM, NYC, OR, UT, WA, WY, USDA/ARS, USDA/APHIS, USDA/RS, USDA/DFA	Nechols, J.R.	Entomology	0.2	1, 4
W-188	Improved Characterization Quantification of Flow & Transport Processes in Soils	AZ, CA, CO, DE, IN, IL, IA, KS, MT, NV, ND, UT, WA, WY, ARS	Kluitenberg, G.J.	Agronomy	0.5	4
NCA-001	Crop and Soil Research	IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI	Mengel, D.	Agronomy		
NCA-002	Animal Health Advisory Committee	IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI	Minocha, H.	Path/Micro		

NCA-004	Horticultural Crops	" " " " " " " " "	Warner, T.	Hort/Forestry	
NCA-005	Home Economics Research	" " " " " " " " "	Kellett, C.	Human Ecology	
NCA-006	Livestock Production	" " " " " " " " "	Riley, J.G.	Animal Science	
NCA-010	Forestry & Forest Products	" " " " " " " " "	Warner, T.	Hort/Forestry	
NCA-012	Agricultural Economics	" " " " " " " " "	Bernardo, D.	Agricultural Economics	
NCA-013	Rural Sociology	" " " " " " " " "	Timberlake, M.	Sociology	
NCA-014	Plant Pathology	" " " " " " " " "	Ziegler, R.	Plant Pathology	
NCA-015	Entomology & Economic Zoology	" " " " " " " " "	Ramaswamy, S.	Entomology	
NCA-016	Agricultural Engineering	" " " " " " " " "	Koelliker, J.	Bio/Ag Engineering	
NCA-022	Food Sciences & Nutrition	" " " " " " " " "	Donnelly, B. (To be named)	Grain Science Nutrition	
NCA-023	Fisheries and Wildlife	" " " " " " " " "	Robel, R.J.	Biology	
NCA-024	Agricultural Education Research	" " " " " " " " "	Harbstreit, S.	Secondary Ed	
NCR-003	Soil Survey	IL, IN, IA, KS, MI, MN, NE, ND, OH, SD, WI	Ransom, M.D.	Agronomy	1, 4
NCR-009	Midwest Plan Service	IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI	Maghirang, R.G.	Agricultural Engineering	1
NCR-013	Soil Testing & Plant Analysis	IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, PA, SD, WI	Whitney, D.A.	Agronomy	1, 4
NCR-022	Small Fruits and Viti-Culture Research Committee	CANADA, AR, AZ, IA, IL, IN, KS, KY, MI, MO, NJ, NY, PA, WA, WI	Erb, A.	Hort/Forestry	1

NCR-025	Corn & Sorghum Diseases	HI, IA, IL, IN, KS, MD, MI, MN, MO, NC, NE, NY, OH, PA, SD	Claflin, L.E.	Plant Pathology	1
NCR-031	Physiological Aspects of Forage Management	IA, IL, IN, KS, MI, MO, MN, NE, ND, OH, PA, SD	Fritz, J.	Agronomy	1
NCR-042	Swine Nutrition	OK, IN, WI, KY, IA, MI, IL, NE, OH, KS, MN, MO, SD, ND	Nelssen, J.	Animal Sciences	1
NCR-046	Corn Rootworm Research	VA, ND, WI., NY, NC, MO, IN, KS, PA, SD, TX, MI, IL, NE, IA, MN, CANADA	Wilde, G.E. Higgins, R.	Entomology Entomology	1
NCR-057	Reproductive Physiology	IA, TX, ND, MN, KS, MO, IN, CANADA, OK, PA, IL, WI, OH, SD, NE	Davis, D.L.	Animal Sciences	1
NCR-059	Soil Organic Matter	IL, IN, IA, KS, MI, MN, MO, NE, ND, NJ, NY, OH, OR, PA, UT, SD, WA, WV, WI	Thien, S. J. Rice, C. W.	Agronomy Agronomy	1, 4
NCR-089	Swine Management Research Committee	IL, IN, IA, KS, MI, MN, NE, ND, OH, SK, WI, CANADA	Hines, R.H.	Animal Sciences	1
NCR-097	Regulations of Adipose Accretion of Meat Animals	NE, GA, NJ, IA, NE, TX, IN, WY, NC, OR	Kropf, D.H.	Animal Sciences	2
NCR-103	Specialized Soil Amendments Products, Growth Stimulants & Soil Fertility Management Systems	IL, IN, IA, KS, MI, MO, MN, NE, ND, OH, SD, WI	Whitney, D.	Agronomy	1
NCR-125	Arthropod Biological Control	IL, IN, IA, KS, KY, MN, MO, NE, ND, OH, WI	Dover, B.	Entomology	1, 4
NCR-131	Animal Care and Behavior	CA, GA, HI, IL, IN, IA, KS, MD, MI, MN, MO, NE, NJ, NM, NY, NC, CANADA, RI, TN, TX, WA	Swanson, J.	Animal Sciences	1
NCR-134	Applied Commodity Price Analysis Forecastings & Market Risk Management	AZ, NY, IL, IA, KS, MA, MI, MO, NE, NC, ND, OH, OK, IN, SD, TX, WI, UT, WA	Schroeder, T.C.	Agricultural Economics	5
NCR-137	Soybean Diseases	IN, CANADA, SD, OH, WI, KS, IL, ND, PA, NE, MN, MO, IA	Schwenk, F.W.	Plant Pathology	1

NCR-168	Epidemiology & Economics of Animal Health Management	KS, MI, MO, NE, IA	Galland, J.	Food Animal Health Ctr.	1
NCR-170	Research Advances in Agricultural Statisticians	AZ, IN, KY, NE, UT, ID, IA, MI, OK, WA, IL, KS, MO, SD, WI	Milliken, G.A.	Statistics	1 - 5
NCR-173	Genetics of Host-Parasite Interactions Between Plants and Fungal Pathogens in Genus Collelotrichum	NE, NY, FL, OR, AR, TX, CA, IN, CA, IN, WA, KS, CAB, BC, KY, MI, MT	Leslie, J.F.	Plant Pathology	1
NCR-174	Synchroton X-ray Sources in Soil Science Research	IN, NY, KY, MI, ND, VT, NE, WI, IA, IL, KS	Pierzynski, G.	Agronomy	1, 4
NCR-180	Site Specific Management	IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI, CA, CO, DE, FL, GA, KY, MT, NC, PA, TX, VT, WA	Schrock, M. Kluitenberg, G.	Bio/Ag Engineering Agronomy	1, 4
NCR-183	Utilization of Animal Manure and Other Organic Residuals in Ag	OH, NE, SD, IL, MI, IN, WI, IA, KS, MO, MN	Lamond, R.	Agronomy	1, 4
NCR-184	Management of Head Scab of Small Grains	IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI	Bowden, R.	Plant Pathology	1
NCR-185	Optimizing Nutrient Intake by Feedlot Cattle for Growth Retail Product and Environmental Concerns	IL, IN, KS, OH, IA, NE, SD, MI, WI, CO, MO, OK, MN	Drouillard, J.	Animal Science	1
NCR-189	Air Quality Issues Assoc. with Animal Facilities	AR, CA, IL, IN, IA, KS, MI, MN, MO, NE, NC, OH, OK, OR, PA, SD, TX, UT, WA	Pickrell, R. Maghrang, R.	Diag. Med/Pathobiology Bio/Ag Engineering	4
NCR-190	Increased Efficiency of Sheep Production (Replaces NC-111)	CA, IN, IA, KS, KY, MI, MN, ND, OH, OR, SD, TX, UT, VI, VA, WI	Schwulst, F.	Animal Science	1
NCR-191	Avian Respiratory Diseases, Pathogenesis Epizootiology and Control (Replaces NC-116)	MI, OH, IA, IL, MN, IN, NC, NY, GA, AR, MA, MO, CT, OK , DE	Consigli, R.A.	Biology	1
NCR-192	NC Regional Turfgrass	IL, IN, IA, KS, MI, MN, MO, ND, NE, OH, WI	Fry, J. Huang, B.	Horticulture/Forestry Horticulture/Forestry	1

NRC-193	Maintaining Plant Health: Managing Insects Pests and Diseases of Landscape Plants	IL, MO, WA, IL, CO, IA, NE, KT, OH, MN, PA, OR, IN, MI, KS, ND, OK, KY	Tisserat, N.	Plant Pathology	1
NCS-003	IPM Research in the NC Region	National Project	Higgins, R. Stahlman, P.	Enromology Ag Res. Center - Hays	1, 4
NCS-005	Water Quality Research Strategy	National Project	Rice, C.	KCARE-AES	4
SERA-IEG-08	Fescue Endophyte Research and Extension		Moyer, J.	Ag Res Center - Hays	1
WCC-43	Management of the Codling Moth and Related Moth in Orchard Ecosystems	CAB, CAD, CAR, CO, MI, NJ, NY, OR, PA, WA, WV	Charlton, R.	Entomology	1
WCC-59	Poultry Production, Processing, and Water Quality	AL, AR, CAD, KS, MD, MO, NC, OK, OR, PA, TX, UT, WA	Beyer, S.	Animal Science	1, 4
WCC-60	Science and Management of Pesticide Resistance	AL, AZ, CAD, CO, IL, IL, IN, KS, LA, MI, MN, MT, NC, NE, NY, OK, OR, SC, UT	Kambhampati, S.	Entomology	1
WCC-66	Biology and Control of the Russian Wheat Aphid	CAD, CAR, CO, ID, KS, MT, NE, OK, OR, TX, UT, WA, WY	Reese, J.	Entomology	1
WCC-72	Agribusiness Research Emphasizing Competitiveness	AZ, CO, ID, IL, IN, KS, MI, MS, ND, NE, MN, OR, PA, TX, WA, WY	Biere, A.	Agricultural Economics	5
WCC-77	Biology & Control of Winter Annual Grass Weeds in Dryland Winter Wheat	CO, ID, KS, MT, NE, NM, OK, OR, UT, WA, WY	Stahlman, P.W.	Ag Res Center - Hays	1
WCC-97	Cereal Diseases	CAD, CO, ID, MN, ND, NE, OR, SD, UT, WA	Bockus, W.	Plant Pathology	1

Partners Within Kansas . . . .

(Examples of many in-state collaborative efforts)

Office of the Governor

- Statewide Water Quality Initiative

Kansas Dept of Health & Environment

- K-State Research and Extension Manages a Portfolio of $2 Million in EPA 319 Project
- Design and Implement a Kansas Environmental Leadership Training Program
- Water Quality Planning Guide
- Develop Immunization Awareness Campaign Including Video for TV Use
- Develop Statewide Initiative to Decrease Injury Rates

Kansas Water Office

- Irrigation Scheduling Evaluation
- Animal Waste Lagoon Project
- Water Resources Education and Public Information Assessment

Kansas Dept of Agriculture

- Research and Education to Develop and Test Best Management Practices to Minimize Coliform Bacteria Contamination
- Nutrient Management Planning for Livestock Producers
- Atrazine Reduction in the Blue River Basin (also impacts Nebraska)

Corn, Grain Sorghum, Soybean, and Wheat Commissions

- Best Management Practices for Cropland to Improve Surface Water Quality

University of Kansas / Kansas Geological Survey

- Research on the Source and Control of Geosmin in Public Water Supplies
- Development of a Web-based Virtual Water Center

Kansas Dept of Social and Rehabilitation Services

- Welfare Reform Education
- Manage a Statewide Food and Nutrition Education Program for Food Stamp Recipients
- Develop Resources and Education Regarding Aging and Mental Health Issues

Kansas Dept of Commerce and Housing

Kansas Small Business Development Centers

Kansas Association of Counties

University of Kansas Medical Center

	• Co-manage the Kansas Pride Program in 70 Communities; Provide Community Data Analysis and Monitor Progress Toward Locally Established Goals
Emporia State University / Langston University	• Public Policy Conference for County Elected Officials • Local Government Applications of Internet-based Technology • Local Government Revenue and Expenditure Database
Haskell Indian Nations University	• Provide Referral Service Through Extension 'Direct' Program
Wichita State University	• Host Medical Student Summer Interns to Help Them Gain Familiarity with Rural / Agricultural Issues
Kansas Division of Emergency Management	• Community Health Risk Assessment • Co-manage an Agromedicine Program
Kansas Health Foundation	• Cooperate on an Applied Research Project Utilizing Goats to Control Sericea Lespedeza
Kansas Rural Center	• Assist with Outreach Efforts on Four Reservations and in Several Urban Communities with High American Indian Populations
	• Host Practicum Students in the Office of Community Health
	• Disaster Planning and Training
	• Funding to Support Office of Community Health and Distinguished Professorship • Grant Supporting Exercise, Nutrition and Wellness Within Aging Populations
	• Farm Stress Issues

The multistate interaction around the listed specific topics which have specific outputs and outcomes represents over 2,100 days of effort at a value of $863,500. Participation in national and regional professional meetings by extension specialists and agents represents an additional commitment of time and funding to involve faculty in on-going dialogue with peers to share ideas, resources, delivery strategies and evaluation methods. These conferences keep faculty current in their disciplines so that they can utilize cutting-edge science to solve everyday issues that confront producers and other citizens. This level of multi-state interaction represents, at a minimum, $238,000 of investment.

We estimate that the current level of Extension multi-state collaboration represents a dollar value of $1,101,500 which is approximately 25% of the Smith-lever 3b and 3c funding received in Kansas (not including the CSRS retirement line). Based on budget numbers provided by CSREES, 25% of the Hatch Funds ($772,972) are expended on multistate research programs.

SECTION V. Baseline Financial Data

FY 2000 Funding

Tables 4-8 show federal formula funding, state match, state and county appropriations which total $78.7M. Since county budgets follow the calendar year, some of the data presented has been extrapolated from FY 99 data. An additional 20M from fees, grants, and competitive awards will support the K-State Research and Extension budget, bringing the total to just under $100M.

Table 4

Kansas State University Fiscal Year 2000 Source of Funds.

RESEARCH		Amount
Base Programs		$3,350,790
Special Research Grants		3,061,260
Competitive & Other Grants		5,433,014
Total Federal Distribution		11,845,064
State Appropriation and Match		28,177,159
Total Research Funding		$40,022,223
EXTENSION		
Base Funding (Including CSRS Ret.)	$5,051,894	
National Priorities		926,334
Other Extension Programs		
RREA		42,112
FERS Ret.		200,469
Total Federal Distribution		6,220,809
State Appropriation and Match		17,161,352
County Contribution		15,350,000
Kansas State University Research & Extension		
Research and Extension: Federal		$18,065,873
Research and Extension: State		45,338,511
Research and Extension: County		15,350,000
Total Appropriation		$78,765,384

Table 5

Resource Investments: Youth, Family, and Community Development.

Issue	Agent FTE	Specialist FTE	Extension funding $	Research FTE	Research funding $	K-State res. & ext. FTE	K-State res. & ext. funding $
Build Strong Healthy Communities	20.20	9.50	2,347,390	2.20	231,700	31.90	2,579,090
Improve Parenting Skills and Family Relations	14.70	3.05	1,297,032	1.00	179,888	18.75	1,476,920
Prepare Youth to be Responsible Citizens	65.00	10.30	5,396,017	NA	NA	75.30	5,396,017
Balance Demands of Work, Family, Community, and Time for Self	9.00	1.90	797,577	NA	6,990	10.90	804,567
Develop Consumer and Financial Management Skills	9.00	1.90	797,577	0.60	95,730	11.50	893,307

Table 6

Resource Investments: Food, Nutrition, Health, and Safety.

Issue	Agent FTE	Specialist FTE	Extension funding $	Research FTE	Research funding $	K-State res. & ext. FTE	K-State res. & ext. funding $
Promote a Safe Food Supply from Production to Consumption	13.40	3.00	1,205,717	3.30	1,328,380	19.70	2,534,097
Promote Healthier and Safer Lives	30.70	7.70	2,850,362	4.80	1,210,975	43.20	4,061,337
Develop New, Appealing Food Products	0.97	3.00	383,485	16.70	5,362,693	20.67	5,746,178

Table 7

Resource Investments: Natural Resources and Environmental Management.

Issue	Agent FTE	Specialist FTE	Extension funding $	Research FTE	Research funding $	K-State res. & ext. FTE	K-State res. & ext. funding $
Ensure Quality and Conservation of Surface Water and Groundwater	10.10	3.30	1,019,357	23.80	5,804,909	37.20	6,824,266
Promote Community and Residential Environmental Management	13.90	5.30	1,483,603	1.00	257,082	20.20	1,740,685
Develop Systems for Improved Soil and Air Quality	5.10	2.80	635,392	0.70	227,503	8.60	862,895

Table 8

Resource Investments: Agricultural Industry Competitiveness.

Issue	Agent FTE	Specialist FTE	Extension funding $	Research FTE	Research funding $	K-State res. & ext. FTE	K-State res. & ext. funding $
Develop Efficient, Integrated Crop Production Systems	15.60	20.60	3,224,588	78.30	19,671,446	114.50	22,896,034
Develop Efficient, Coordinated Livestock Production Systems	14.50	20.00	3,087,960	55.00	18,078,632	89.50	21,166,592
Enhance the Value of Kansas Agricultural Goods	3.90	5.40	832,757	11.50	4,040,123	20.80	4,872,880
Develop Agricultural Risk Management Strategies	9.00	7.40	1,382,997	1.60	218,757	18.00	1,601,754
Develop Agricultural Technologies and Information Systems	6.70	3.40	805,094	1.60	430,773	11.70	1,235,867

Appendix A

Submit to Department Head or Area Director USE CONCISE LAY LANGUAGE

K-State Research and Extension
IMPACT REPORT
January 1, 1999 - December 31, 1999

Program/Project: _____

Faculty Member: _____ **Department/Planning Unit:** _____

_____ _____

PROGRAM: IN LAY LANGUAGE, summarize your program. Include succinct information on what you planned and implemented–e.g., long-term goals, measurable objectives, and involvement of cooperators and funding partners. Include international implications, as applicable.