2012 Kentucky State University and University of Kentucky Combined Research and Extension Plan of Work

Status: Accepted

Date Accepted: 06/07/2011

I. Plan Overview

1. Brief Summary about Plan Of Work

The University of Kentucky College of Agriculture and Kentucky State University were founded as land-grant institutions (1862 and 1890, respectively), offering access to knowledge and learning to enhance the lives of Kentuckians. The programs are fundamentally interdisciplinary, applying the biological, physical, and social sciences to challenges in agricultural, food, and environmental systems. Our work encompasses farms and forests, food and fiber, families, and communities.

The University of Kentucky College of Agriculture holds a unique position as the home of the Kentucky Agricultural Experiment Station and the Kentucky Cooperative Extension Service. The teaching, research, and extension programs are part of a national system that maintains a statewide presence and links local, state, and global issues.Kentucky State University focuses on research, extension, and education through the Community Research Service, Cooperative Extension Program,Educational Outreach, and Aquaculture Research Center.

The vision is to be recognized for excellence in fostering learning that changes lives, discoveries that change the world and opportunities that shape the future. Research and extension, as full partners with expanding linkages throughout the University of Kentucky and Kentucky State University and with support from every Kentucky county, seek to 1) facilitate lifelong learning informed by scholarship and research, 2) expand knowledge through creative research and discovery, and 3) serve Kentuckians by sharing and applying knowledge.

Research and extension seek to sustain the land-grant heritage of achievement in these challenging times, but many significant changes are confronting the Commonwealth and the college. As Kentucky continues to move from a tobacco-based agricultural economy and explores new options and commodities, increased demands and expectations are placed upon land-grant programs. Technology is redefining the way people acquire and distribute information and how they solve problems. While urbanization is claiming farmland, it is also creating new markets for traditional and non-traditional agricultural products. Changing lifestyles and demographics are challenging us with opportunities for greater involvement in youth, family and community programs.

The approximate 83,000 farms in the state, which places Kentucky in the top four states for number of farms, average 165 acres per operation. Many of these farms are major producers of traditional agricultural commodities such as livestock, tobacco and grain. Others are operated either on a part-time basis or involve limited resources. Historically, many rural communities have had major dependence on farm income for their economic viability. With the declining potential of tobacco to generate farm income, development and discovery of new enterprises and management strategies are essential. The land-grant system will be challenged to find new strategies to meet the demands for increased diversification in rural communities. In the post-tobacco growing era, successful risk management is important in maintaining competitiveness in the state's agricultural economy.

Value opportunities in agriculture create jobs, many of them within rural communities. Value opportunities also create expanded demand for local agricultural products. Initiatives are required to encourage local entrepreneurial creativity and risk taking and build a network of support resources. Kentucky is making substantial resource commitments to support value-adding innovations that utilize local agricultural products, particularly in the areas of livestock, horticulture, secondary wood products and agritourism.

The mission of an effective food safety system is to protect and improve public health by ensuring

that foods meet science-based safety standards. Over 50 percent of all food-borne illness can be attributed to mistakes made in food service establishments and restaurants, while 20 percent are traceable to consumers in their homes. Changes in the risk of food-borne disease are due primarily to changes in diet, increasing use of commercial food service and in food prepared and eaten away from home, new methods of producing and distributing food, and the growing number of at-risk individuals, such as the elderly and those who are immuno-compromised. In addition, there are also educational programs needed because of the growing use of dietary and herbal supplements that have no required safety standards, new food components that mimic traditional food components, and the introduction of new food technologies and processes.

Educational training on the safe production, preparation, handling and storage of food targeted for producers, processors, consumers and at-risk groups is the traditional approach to decrease the risks of food-borne illness. Additional work is needed on research, discovery, and education in the areas of production and processing practices.These programs will focus on established businesses as well as the growing home and microprocessing food industry.

Three leading causes of morbidity and mortality in Kentucky are cardiovascular disease, cancer, and diabetes. These chronic diseases have strong nutrition and physical activity components in the recommendations for their prevention and treatment. Obesity is a contributing factor in the development of these diseases. In Kentucky, the prevalence of overweight adults has escalated over the last 15 years, rising from 23 percent in 1989 to over 33 percent of Kentuckians. Early diagnosis of cancer, diabetes and cardiovascular disease is associated with an improved outcome, including improved quality of life and longevity. Prevention, detection and treatment of chronic disease in Kentucky is particularly important in today's changing health care environment. People with chronic diseases require skills for self-care. Without such skills, people with diabetes or heart disease often require costly acute care. The prevention of chronic diseases through better self-care also requires skills. Diet, nutrition and exercise are some of the most effective tools for self-care and prevention of chronic diseases.

Diets rich in fat and low in fiber contribute to obesity, diabetes, heart disease, stroke and cancer. Nutrition programs like the National Cancer Institute's 5-A Day and USDA's Food Guide Pyramid can have a profound effect on Kentucky citizens and communities. Recent studies show the following: Fewer than one in five Kentucky adults achieves the goal of 5-A-Day servings of fruits and vegetables. In rural areas of Kentucky, including Appalachian and western regions, food consumers may not have ready access to a variety of fresh fruits and vegetables at reasonable prices. Younger generations are less familiar with managing and preparing food at home. Over 50 percent of Kentuckians with incomes just below poverty level are overweight, and especially at risk are children and youth. The need to improve health and quality of life for citizens of the Commonwealth is evident.

Kentucky's natural biological wealth and beauty has drawn the attention of people for centuries. The Commonwealth has been home to rare ecological communities. The agricultural, forest, and coal industries have historically been the economic base for Kentucky's economy.

But Kentucky's biological wealth is threatened. Most soils in Kentucky are deficient in one or more of the nutrients required for sustainable crop production, and therefore require the use of supplemental fertilizers or the application of animal manures. Pesticides are utilized for weed and insect control. Many Kentucky farms are located on highly erodible or steep sloping terrain near water sources. Runoff pollution, also known as nonpoint source pollution, is the number one contributor to water pollution in Kentucky. Runoff pollution is caused by numerous activities such as mining, farming, logging, and construction. It is also caused by activities around the home such as using lawn care products, dumping used motor oil, antifreeze and other chemicals into ditches or down storm drains and improperly treating household waste water. The Bluegrass savanna, unique to Central Kentucky, is now nearly extinct and more than 80 percent of the state's wetlands have been destroyed. Eleven percent of Kentucky's plants, 31 percent of Kentucky's fishes, 23 percent of reptiles and amphibians, 23 percent of birds and 33 percent of the mammals are listed as rare, threatened or endangered. In addition to timber harvesting activity, much of this same land has been affected by coal production with an average of 16,000 acres of land per year affected by mining activity, mostly in Kentucky's primary forest-producing areas.

Concern over ecosystem issues by the general public as well as national and state government has

generated recognition of the need for educational programs. Kentucky's biological wealth may continue to be threatened unless comprehensive and sustainable approaches are researched and utilized for enjoying, studying, and at the same time, harvesting the fruits of the land through logging, mining and agricultural production. These approaches must also consider how these systems adapt to and mitigate climate change.

The land grant system's mission of enhancing economic opportunity and improving the quality of life for Americans, goes well beyond agricultural production.It includes the empowerment of people and communities through research-based information and education to address economic and social challenges facing our youth, families, and communities.Here are some of the challenges:

Families face increasing financial difficulties. Many Kentucky families are in debt and are not saving enough to secure their financial future and many are on the edge of financial disaster. Recently, families seeking Chapter 7 bankruptcy relief averaged nearly $12,000 in credit card debt alone. Families need assistance in learning to live within their income and earning capacity and in planning for the future.

Both urban and rural areas of the state continue to be plagued by high unemployment and underemployment. Nearly 30 percent of Kentucky's youth entering the eighth grade fail to graduate from high school. With industries relocating to other countries, industry closings have affected many areas of the state. Many Kentuckians lack the educational preparation and skills needed to secure and maintain employment or qualify for new-era jobs. Throughout life, Kentuckians, both youth and adults, need to develop skills essential to become productive members of the community and workforce.

Being a productive member of society as an adult requires young people to gain experience as active citizens at an early age. The learning experiences of 4-H community service activities help youth develop life skills needed to be effective in various adult roles in society.

Kentucky scored a "D" in its efforts to prepare for the new science standards required to be in place in 2005 by the federal No child Left Behind (NCLB) law (State of Science Standards 2005, which appraised the quality of statewide K-12 science standards). Likewise, Kentucky eighth graders score below the national average in math and reading, with 77 percent of students scoring below proficiency levels in math and 69 percent scoring below proficiency levels for reading, according to the National Center for Educational Statistics.

Our goal is to improve the capacity of communities to identify and address these critical issues and others that affect the lives of citizens. We can best do this by fostering the development of personal and interpersonal skills, stimulating volunteer leadership, and promoting active participation in community problem-solving. Without the acquisition of life skills needed by young people and adults, it is doubtful they will reach their full potential as both individuals and as members of families.

We approach Kentucky's challenges through an integrated model that includes a needs assessment at the grassroots level through the Cooperative Extension Service, advisory groups, councils and committees. Research problems and needs, once identified as priorities, are addressed by our researchers and extension specialists. The research, developments, findings and technologies are transferred through traditional and innovative mechanisms including educational and training programs, technology transfer, research reports, and partnerships with other colleges, universities, and state and local government.

Whether it is preserving our rich agricultural tradition by helping farmers, food processors, and agribusiness cope with technical issues, reaching life's goals, or enhancing the life skills of families, our research, education and extension programs are helping shape the future of Kentucky's agriculture, food systems, communities, and the quality of life of the citizenry.

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

Year	Extension		Research	
	1862	1890	1862	1890

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	470.0	40.0	75.0	40.0
2013	470.0	42.0	75.0	41.0
2014	470.0	43.0	75.0	41.0
2015	470.0	44.0	75.0	42.0
2016	470.0	44.0	75.0	42.0

II. Merit Review Process

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

- ☑ Internal University Panel
- ☑ External University Panel
- ☑ External Non-University Panel
- ☑ Combined External and Internal University Panel
- ☑ Combined External and Internal University External Non-University Panel
- ☑ Expert Peer Review
- ☑ Other (State Extension Advisory Committee)

2. Brief Explanation

The Kentucky Cooperative Extension Service has defined merit review as a process used to judge the degree to which a planned program (1) is relevant to needs expressed by stakeholder groups, (2) draws upon current research and knowledge, (3) is congruent with quality standards and best practice, and (4) is likely to produce anticipated outcomes. Merit review for research is similar in that it uses the criteria of (1) consideration for potential impact, (2) relevance to the needs of stakeholders, and (3) appropriateness within the mission and priorities of the experiment station, USDA, and the land-grant mission.

The Plan of Work is built on program goals that the Cooperative Extension Service identified through extension advisory committees, developed through logic model program development, and reviewed through regional issues committees made up of extension agents, department chairs and specialists. The program area assistant directors then select featured programs based on identified need in the greatest number of counties, current and planned research and educational resources, and our ability to effectively deal with the issues. Forty-four non-university individuals representing all geographic regions of Kentucky as well as agriculture, youth, families business, industry, and public education serve as reviewers of the Plan of Work. The plan is reviewed by members of the state extension council using the criteria identified above. Reviewers represent stakeholder groups, organizations and related businesses and

have affiliation within the disciplines germane to the portion of the plan they are asked to review. Four new members were added to better represent KSU programs.

The University of Kentucky Agricultural Experiment Station focuses scientific peer review and merit review on individual research projects. Scientific review is evaluation by other researchers who possess the expertise to conduct the same or similar research. Such review includes technical feasibility, originality and scientific/disciplinary significance of the research. Project proposals go through an initial anonymous peer review. If satisfactory expertise is not available within the department or on campus, external reviews are solicited. After multiple reviews (usually three) a project committee recommends approval, rejection, or revision. Only approved projects move forward for review at the college level. The college review committee conducts further scientific peer review by highly qualified individuals as well as a designated statistician and other appropriate faculty. Outside expertise, including stakeholder review, is used as needed.

Kentucky State University requires all project-based proposals to be peer-reviewed based on scientific merit and relevance to state, national and regional USDA priorities and the KSU mission. All Evans - Allen supported proposals are first sent for external peer-review by at least two scientists outside KSU to ensure the relevance and quality of the science. University of Kentucky faculty are often included on the proposal review panels.Extension and Educational Outreach conduct internal reviews in addition to peer review via regional, national, and professional association colleagues.

III. Evaluation of Multis & Joint Activities

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

The Kentucky Extension Advisory Council has served as a primary mechanism for gaining input into program direction and development. For programs to meet the needs of the audiences they intend to serve, representatives of that audience are involved in planning, implementation, and evaluation of those programs. Each county has a county extension council, agricultural advisory council, homemaker's council, home economics advisory council, and 4-H council. The main purpose of the councils is to provide input into development of local extension programs, but they also help communicate research and resource needs to the universities. Issues of greatest importance in the greatest numbers of counties are brought forward through the regional issues and program committees made up of extension agents, department chairs, extension specialists and researchers.

As full partners, the Cooperative Extension Service and Kentucky Agricultural Experiment Station set priorities for research activities with information from the county extension councils, regional issues and program committees and the University of Kentucky Council for Agricultural Research, Extension and Teaching (UK-CARET).UK-CARET functions as an advisory and advocacy group for the College of Agriculture. Members have an opportunity to advise in the development of college priorities and assist in generating public support for those priorities at state and national levels. UK-CARET is representative of the full scope of the land-grant mission: extension, research, instruction, and service. Membership is composed of active and progressive leaders in agricultural and natural resource enterprises. UK-CARET provides a direct link to the national CARET organization managed by the National Association of State Universities and Land Grant Colleges (NASULGC will become the Association of Public and Land-grant Universities or APLU in April 2009).Two members of UK-CARET are designated as national CARET representatives.

In addition, the experiment station meets formally with other entities: quarterly with the Kentucky Tobacco Research Board to set priorities for research by the Kentucky Tobacco Development Center to assist in the transition from the tobacco-based economy; quarterly with the Equine Initiative external advisory committee; quarterly with the Livestock Disease

Diagnostic Center Advisory committee; bi-annually with the board of the Gluck Equine Research Center to discuss priorities for the equine industry; and regularly with the Tracy Farmer Center for the Environment on conservation-based research. Input is also received through the Community Farm Alliance, the Sierra Club, and other environmental groups through the UK Biotechnology Research and Education Initiative.

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

In the 2009 fiscal year, a statewide effort was made to examine extension council membership and respond by making councils more representative of county populations, including underserved and underrepresented audiences. The Kentucky Extension Advisory Council involved over 10,000 individuals in the needs identification process. Planned programs are based on input from these stakeholder groups, researchers who identify the most critical issues, and state and regional priorities. Those groups are also instrumental in planning, implementation, and evaluation of those programs. Examples of programs for under-served audiences include programming in financial management, life skills, and food safety for non-English speaking and limited English-speaking audiences; increasing efforts to reach middle school teens in 4-H by modifying delivery methods to include on-line formats, chatrooms, social networking; promotion of the arts in rural Kentucky; the Small Farm Program for small, disadvantaged and beginning farmers, Living on a Few Acres for small and part-time farm owners; and entrepreneurs and small businesses. Additionally, KSU now has 4 representatives on the Extension Advisory Council and a Hispanic Outreach Initiative.

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

The featured programs and four-year county plans of work have been developed using a logic model approach. This approach focuses audiences, programming and evaluation goals and methods on desired long-term, intermediate and short-term outcomes. Local and statewide evaluation of programs is built into those models with an emphasis on clientele practice changes (intermediate outcomes), although participation numbers and long-term outcome studies are also conducted. Extension specialists and researchers use this information to forecast long-term outcomes based on experience and research findings. Research programs follow approved research protocol and include hypotheses describing expected outcomes and these outcomes are reported annually via the College of Agriculture accomplishments and impacts Web site.

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

In Kentucky, the research and extension programs of Kentucky State University and the University of Kentucky have had historic and strong connections that increase effectiveness of all programming efforts. In most programs, the results of extension education and demonstration activities inform the research agenda and all extension education programs are research based. The featured-programs approach and program development through regional issues committees allows us to better identify current available research and resources before requesting new issues be added to a research agenda.

IV. Stakeholder Input

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

- ☑ Use of media to announce public meetings and listening sessions
- ☑ Targeted invitation to traditional stakeholder groups

- ☑ Targeted invitation to non-traditional stakeholder groups
- ☑ Targeted invitation to traditional stakeholder individuals
- ☑ Targeted invitation to non-traditional stakeholder individuals
- ☑ Targeted invitation to selected individuals from general public
- ☑ Survey of traditional stakeholder groups
- ☑ Survey of traditional stakeholder individuals
- ☐ Survey of the general public
- ☑ Survey specifically with non-traditional groups
- ☐ Survey specifically with non-traditional individuals
- ☐ Survey of selected individuals from the general public
- ☑ Other (Training stakeholders in expectations relative to program needs)

Brief explanation.

The Kentucky Cooperative Extension program development process is based on a grassroots, six-stage model that begins with the engagement of local advisory councils for agriculture, 4-H, Family and Consumer Sciences and Extension Homemakers. These program committees use a variety of methods for capturing input, including council dialogue and discussion, surveys, program evaluations, and other local agency and organization agendas. For the development of the new plan of work, these program committees supported the total county extension council in data collection that includes local resident perspectives, and an examination of existing data to determine local program direction. Through an analysis of this data and facilitated dialogue, councils identified program opportunities through which extension and local comminity organizations could effectively bring about positive change. County extension councils then established program priorities for which county program plans were written. In all, 10,790 people were involved in the process of establishing local program priorities for the current plan of work.

High priority issues and needs identified by county extension councils are acted upon locally by county extension staff and leaders and are summarized and priotized for consideration at the district level through the Issues Flow Process.The issues are then directed to the Program Leaders and academic departments for response. Lay leaders of the State Extenison Advisiory Council again review the list of issue and responses. This process has been followed to assist university personnel and extension specialists in better understanding the county-level issues, to speed up the development of resources, and to better focus educational methods for dealing with these locally-identified issues. Programs of greatest need in the greatest number of counties are focused on to identify existing resources and develop new materials to address issues and concerns.

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

1. Method to identify individuals and groups

- ☑ Use Advisory Committees
- ☑ Use Internal Focus Groups
- ☑ Use External Focus Groups
- ☑ Open Listening Sessions
- ☐ Needs Assessments

- ☑ Use Surveys
- ☑ Other (Program participants; Project Collaborators)

Brief explanation.

Advisory groups and committees provide for regular rotation of membership. This results in a regular analysis of the makeup of the advisory group and makes it clear when geographic regions and underserved audiences have issues that need to be addressed.

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

1. Methods for collecting Stakeholder Input

- ☑ Meeting with traditional Stakeholder groups
- ☑ Survey of traditional Stakeholder groups
- ☑ Meeting with traditional Stakeholder individuals
- ☑ Survey of traditional Stakeholder individuals
- ☐ Meeting with the general public (open meeting advertised to all)
- ☑ Survey of the general public
- ☐ Meeting specifically with non-traditional groups
- ☐ Survey specifically with non-traditional groups
- ☑ Meeting specifically with non-traditional individuals
- ☐ Survey specifically with non-traditional individuals
- ☑ Meeting with invited selected individuals from the general public
- ☐ Survey of selected individuals from the general public
- ☑ Other (Serving on advisory groups/councils for organizations)

Brief explanation.

Every state level four-year plan of work cycle requires an in-depth needs assessment with agents working with and through advisory councils and committees to identify individuals, organizations, and resources impacted by extension and seeking input from those groups.Agents likewise draw input from their involvement on the planning and advisory groups of government, interagency councils, schools, development districts and other organizations.Plans are reviewed and updated on an annual basis by the extension advisory groups.Research groups and leaders seek input from stakeholders and report on stakeholder issues, concerns, and suggestions.

3. A statement of how the input will be considered

- ☑ In the Budget Process
- ☑ To Identify Emerging Issues
- ☑ Redirect Extension Programs
- ☑ Redirect Research Programs
- ☑ In the Staff Hiring Process

- ☑ In the Action Plans
- ☑ To Set Priorities
- ☐ Other

Brief explanation.

Stakeholder input is utilized across the board from research needs, hiring, to budget development, resource acquisition, program implementation, and evaluation. Our stakeholders are also the best tool to communicate the successes of the organization with outside and nontraditional groups and decision makers.

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Life Skill Development
2	Leadership and Volunteerism
3	Diet, Nutrition and Healthy Lifestyles
4	Social and Economic Opportunity
5	Global Food Security and Hunger
6	Agricultural and Environmental Quality
7	Food Safety
8	Climate Change
9	Sustainable Energy
10	Childhood Obesity

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Life Skill Development

2. Brief summary about Planned Program

This planned program promotes the acquisition of life skills needed by young people and adults to reach their full potential as individuals and as members of families and communities. Issues abound in regards to early childhood development, youth development, ethics, character education, life skills, money and resource management, retirement savings, social entrepreneurship, and more. Extension has resources to improve and change lives through involvement in these types of programming opportunities.

Planned research supporting extension activities includes a research project that will examine the perceptions and experiences of youth and adults engaged in various types of youth-adult relationships when involved in community projects (e.g., civic service, service learning, and fund raising).The study will access the perceptions of youth and adults toward their involvement and interaction with one another when working together on community projects, determine what experiences youth and adults encounter when participating in various youth-adult relationships at the community level, examine how youth and adults expand their abilities to set and achieve common goals, and determine what characteristics constitute various youth-adult relationship experiences.

KSU will expand educational outreach in the STEM areas for youth and college students, will increase the enrollment of limited resource families and communites who are at or below poverty and who qualify for support services, and will provide educational opportunities to children and parents through the Center for Families and Children.

3. Program existence :

- ○ New (One year or less)
- ◉ Intermediate (One to five years)
- ○ Mature (More than five years)

4. Program duration :

- ○ Short-Term(One year or less)
- ○ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ○ No

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

- ◉ Yes
- ○ No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
801	Individual and Family Resource Management	20%	30%	0%	33%
802	Human Development and Family Well-Being	30%	10%	33%	33%
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	0%	20%	33%	0%
805	Community Institutions, Health, and Social Services	0%	15%	34%	0%
806	Youth Development	50%	25%	0%	34%
	Total	100%	100%	100%	100%

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

1. Situation and priorities

The well-being of families is threatened by changing employment opportunities, eroding buying power, fluctuating income, easy credit, and limited resource management skills. Learning how to manage resources to meet the material needs of youth and families is seen as a real shortfall of many Kentucky families. Personal finance principles such as paying yourself first, borrowing money, the impact of credit on an individual's future, budgeting, the value and types of insurance, savings accounts and interest, and estate planning are foreign to many Kentucky families that are just struggling to pay monthly bills.

The financial security of Kentucky families and individuals has been threatened by tremendous changes in the economic climate as is reflected in Kentucky's median income of $40,939, below the U.S.

median of $50,046. One in four Kentucky children lives in poverty. With limited resources, consumers must use effective decision-making skills for all household purchases and financial products for the best investment.

Parents have limited knowledge about quality child care and about their own influence in their children's development and how these decisions effect self-esteem and motivation to learn. Only 74.1 percent of adults 25 and older are high school graduates compared to 80.4 percent nationally. Adult literacy surveys show basic reading and writing skills low and inhibit the ability to hold good jobs. Studies indicate a critical need for mentoring of children by adults and preventive education about substance abuse.

With as many benefits as America has to offer its citizens, far too many children and youth are not learning or practicing life skills and basic values of good character. A "me first" attitude and a quest for instant gratification has lead to disturbing numbers of young people who steal, lie, and cheat in school, on the job, and in personal relationships. There is a disturbing willingness to resolve conflict with physical force (A Report Card on American Integrity). Research shows that the experiences young people have during early adolescence provide the foundation on which they develop their personalities and life skills. Early adolescence is a time of rapid change in young people; hence, this is often an excellent opportunity to make a positive impact on their development. 4-H reaches youth in early adolescence and has been shown to significantly influence the development of young people. Every Kentucky child deserves the opportunity to live a good life and 4-H can help make that happen. Life skills--the abilities that individuals learn that help them to be successful in living a productive and satisfying life-- serve as the foundation of 4-H clubs. These clubs have been found to be effective in helping youth develop critical life skills such as decision-making, responsibility, interpersonal skills, a service ethic, and social skills. In addition, 4-H clubs emphasize developing practical and technical skills. Members often cite the hands-on learning opportunities available through the club experience as vital to their skill development.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Adults engage in a lifelong learning effort which continually enables them to function in today's society. Lifelong learning through extension, community coalitions, and other resources helps them gain and apply the knowledge and skills that are necessary to fulfill family and work obligations, maintain independent living, communicate effectively with others, and be effective citizens. Individuals and families are interconnected with their communities. When we strengthen the individual's assets, we also strengthen the assets of the community. Reciprocally, the community nurtures the families and individuals within it. Every effort we make is important for the ultimate good of the whole, and our work of strengthening and building never ends.

Extension programs can help today's individuals and families face these issues in which life skills are necessary.

•Youth and adults need to develop confidence and self-assurance in personal, social, and business situations. •The level of support for families of very young children influences later school achievement and lays the foundation for a lifetime. •Young children learn best in the context of important

relationships, not by just memorizing letters and numbers. 4-H reaches youth in early adolescence and has been shown to significantly influence the development of young people. •The majority of parents of children from birth to age five are currently working full or part-time. This brings about an increased amount of stress in managing time; dealing with problems of physical, mental, and emotional health; managing financial resources; maintaining households; and dealing with childcare. •The baby boom generation is aging into the largest elderly population in human history, which will bring about sweeping changes in every area of our lives. •Financial literacy is at an all-time low. Personal bankruptcy filings have increased and household debt has increased dramatically. Consumers are not knowledgeable about investing their money and very few families do financial retirement planning. •The price of health care continually rises, as does the number of Americans without health care insurance. •Identity fraud is the fastest growing type of crime in the country, while Internet scams and telemarketing fraud are also increasing.

All of the issues facing today's individuals and families require that they have basic life skills to make the best, most informed decisions which will affect their future, the future of their families, and the future of their community.

2. Ultimate goal(s) of this Program

• More families will stay together in strong relationships •Children's health and developmental outcomes will be advanced •Children will experience more opportunities for school and personal success •Youth will be better babysitters and then better parents •Youth will have more babysitting jobs and more money and life skills that can translate into entrepreneurial/workforce preparation skills •The number of families that are financially independent, who have emergency funds, and have adequate retirement savings will increase •Family debt levels and personal bankruptcies will decrease

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	120.0	16.0	0.5	0.0
2013	120.0	16.0	0.5	0.0
2014	120.0	16.0	1.5	0.0
2015	120.0	16.0	1.5	0.0
2016	120.0	16.0	1.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Through exension specialists, agents, project coordinators, and program assistants, CES will partner with schools, businesses, and local agencies to present programs designed to build life skill opportunities and improve quality of life in adults and youth. Examples include:

• In-service training for extension agents on planning and retirement •Agents and specialists conducting estate planning and retirement workshops and meetings for adult citizens of Kentucky •Agents providing extension homemaker lessons on wills and retirement •Small Steps to

Health and Wealth and GPS Programming have become life skills featured programs •Estate planning and retirement publications will be made available to the public through the web, meetings and activities and county extension offices •Agents and community collaborators training parents, grandparents and community partners in attachment and literacy building, child development, and preventive and non-violent discipline •4-H project groups with six hours or more of teaching time •One-day 4-H project groups •Camp classes •Senior conference track: Child Care- Beyond Babysitting •Middle school career classes - in school and on Web •Alternative school day calendar programs •School-sponsored day care centers for faculty and students •Family Development and Management program for limited resource families, •Entrepreneurship Camp for High School Students

Through research, faculty in the departments of Community and Leadership Development, Family Studies, and Agricultural Economics explore topics such as family firms and policy and the interactions of individuals, families, and communities in the context of the mental and physical health of diverse rural, low-income families.

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

Extension

Direct Methods	Indirect Methods
☑ Education Class	☐ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☑ One-on-One Intervention	☑ TV Media Programs
☑ Demonstrations	☑ Web sites
☐ Other 1	☑ Other 1 (social networking)
☐ Other 2	☐ Other 2

3. Description of targeted audience

• Agents, community collaborators, and adults interested in financial management and retirement •Adults with low financial literacy •Parents with children and grandparents •4-H youth from 9 - 19 for project work •4-H youth 11 and up for Babysitting and Beyond Youth entrepreneurs

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	150000	200000	1100000	100000
2013	150000	200000	1100000	100000
2014	150000	200000	1100000	100000
2015	150000	200000	1100000	100000
2016	150000	0	1100000	0

2. (Standard Research Target) Number of Patent Applications Submitted

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	2	0	2
2013	2	0	2
2014	2	0	2
2015	2	0	2
2016	2	0	2

V(H). State Defined Outputs

1. Output Target

- Published research journal articles

2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of individuals demonstrating informed and effective decision making.
2	Number of youth participating in Extension 4-H Youth Development Programs
3	Dependent care providers (adult or child) report changes in knowledge, skills, opinions or aspirations as a result of programs conducted by Extension.
4	Number of youth or adults who demonstrate increased practical living skills.
5	Number of individuals reporting changes in knowledge, skills, opinions or asprirations related to parenting, personal relationships, or career choices.

Outcome # 1

1. Outcome Target

Number of individuals demonstrating informed and effective decision making.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:75000 **2013:**75000 **2014:**75000 **2015:**75000 **2016:**75000

3. Associated Knowledge Area(s)

- ☑ 801 - Individual and Family Resource Management
- ☑ 802 - Human Development and Family Well-Being
- ☑ 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- ☑ 805 - Community Institutions, Health, and Social Services
- ☑ 806 - Youth Development

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 2

1. Outcome Target

Number of youth participating in Extension 4-H Youth Development Programs

2. Outcome Type :

- ◉ Change in Knowledge Outcome Measure
- ○ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:195000 **2013:**195000 **2014:**195000 **2015:**195000 **2016:**195000

3. Associated Knowledge Area(s)

- ☑ 801 - Individual and Family Resource Management
- ☑ 802 - Human Development and Family Well-Being

- ☑ 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- ☑ 805 - Community Institutions, Health, and Social Services
- ☑ 806 - Youth Development

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 3

1. Outcome Target

Dependent care providers (adult or child) report changes in knowledge, skills, opinions or aspirations as a result of programs conducted by Extension.

2. Outcome Type :

- ◉ Change in Knowledge Outcome Measure
- ◯ Change in Action Outcome Measure
- ◯ Change in Condition Outcome Measure

2012:5000 **2013:**5000 **2014:**5000 **2015:**5000 **2016:**5000

3. Associated Knowledge Area(s)

- ☑ 801 - Individual and Family Resource Management
- ☑ 802 - Human Development and Family Well-Being
- ☑ 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- ☐ 805 - Community Institutions, Health, and Social Services
- ☑ 806 - Youth Development

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 4

1. Outcome Target

Number of youth or adults who demonstrate increased practical living skills.

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:85000 **2013:**85000 **2014:**85000 **2015:**85000 **2016:**85000

3. Associated Knowledge Area(s)

- ☑ 801 - Individual and Family Resource Management
- ☑ 802 - Human Development and Family Well-Being
- ☐ 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- ☐ 805 - Community Institutions, Health, and Social Services
- ☑ 806 - Youth Development

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 5

1. Outcome Target

Number of individuals reporting changes in knowledge, skills, opinions or asprirations related to parenting, personal relationships, or career choices.

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:18000 **2013:**18000 **2014:**18000 **2015:**18000 **2016:**18000

3. Associated Knowledge Area(s)

- ☑ 801 - Individual and Family Resource Management
- ☑ 802 - Human Development and Family Well-Being
- ☐ 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- ☐ 805 - Community Institutions, Health, and Social Services
- ☑ 806 - Youth Development

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- ☐ Natural Disasters (drought, weather extremes, etc.)
- ☑ Economy
- ☑ Appropriations changes
- ☑ Public Policy changes
- ☑ Government Regulations
- ☐ Competing Public priorities
- ☐ Competing Programmatic Challenges
- ☐ Populations changes (immigration, new cultural groupings, etc.)
- ☐ Other

Description

Accessibility problems due to child care, transportation, and scheduling. Parent literacy levels vs. educational resources. Collaboration of schools, community agencies, and businesses for funding, locations, leadership, and publicity.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- ☐ After Only (post program)
- ☑ Retrospective (post program)
- ☐ Before-After (before and after program)
- ☑ During (during program)
- ☐ Time series (multiple points before and after program)
- ☐ Case Study
- ☐ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Evaluations will include reporting participant numbers as well as adoption of practices and practice changes as a result of participation in extension life skills programs.

2. Data Collection Methods

- ☑ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☑ Mail
- ☑ Telephone
- ☑ On-Site

Interview

- ☐ Structured
- ☐ Unstructured

- ☐ Case Study
- ☑ Observation
- ☐ Portfolio Reviews
- ☑ Tests
- ☐ Journals
- ☐ Other

Description

Data collection will include some pre- and post-testing for knowledge gained and some post-program evaluations utilizing a variety of methods as a follow-up to determine adoption of practices and practice changes as a result of involvement in extenson programs.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Leadership and Volunteerism

2. Brief summary about Planned Program

Foster the development of leadership skills, stimulate volunteerism, and promote participation in addressing community issues. Providing adults and youth with leadership and development opportunities is important to both their personal development and to the improvement of the community in which they live.

KSU will implement a distinguished lecture series to address issues of national and global salience and will develop a cultural training program.

3. Program existence :

- ○ New (One year or less)
- ○ Intermediate (One to five years)
- ◉ Mature (More than five years)

4. Program duration :

- ○ Short-Term(One year or less)
- ○ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ○ No

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

- ◉ Yes
- ○ No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	20%	40%	0%	0%
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	50%	25%	0%	0%
903	Communication, Education, and Information Delivery	30%	35%	0%	0%
	Total	100%	100%	0%	0%

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

1. Situation and priorities

Economic, social, political and technological advances in society create a higher demand on people to demonstrate more effective leadership and volunteer skills. Leadership skills, including communication, managing, decision-making, listening, self-motivation and self-understanding are essential in job employment and career advancement.

The Cooperative Extension Service has a long history of commitment to development of community-based leadership skills among clientele. In 2009, extension agents reported 13 percent of their 6.4 million contacts were related to leadership development, and agents reporting working with 2,394 community coalitions that focus on local issues.

Extension councils and advisory groups identified the need to enhance the leadership and volunteerism of the clientele through education and practice as one of extension's top priorities since most Kentucky counties need more volunteers to increase services and opportunities for youth and adults. Through the training of leaders for its own programs, and through the initiation of countywide leadership programs and the Kentucky Entrepreneurial Institute, extension provides trained volunteers for the public well-being, expanding the capacity of individuals and groups to engage in civic action for the benefit of society. Informed civic action in public life is desperately needed in Kentucky for the success of informal networks, neighborhood groups, organizations, communities, and various levels of government attempting to address the ills of the state.

Extension itself is a volunteer-based organization depending on leaders and volunteers to plan and conduct programs. Extension district board members oversee finances. Volunteers serve on county extension and program area councils. 4-H Councils and homemakers' councils are made up of representatives from the organizations and expand their service to the organizations as club leaders, activity hosts, project and committee leaders, as well as representatives to state organizations.

The Search Institute cites three specific developmental assets under the broader heading of "empowerment" that are necessary building blocks for youth to grow up healthy, caring, and responsible. They are 1) the community values youth, 2) the youth are seen as resources, and 3) the youth offer service to others. Developing these assets through leadership and personal development instruction will create a setting that will minimize high risk behaviors, channel the youth in positive directions, and allow them the chance to succeed in their communities, countries, and world.

The Kentucky Extension Homemakers Association has nearly 18,000 members who have monthly educational lessons. They sponsor many programs and activities such as community blood drives, local festivals, scholarships, in addition to cultural tours, financial contributions to community causes, and community service. 4-H programs involve nearly 20,000 adult and teen volunteer leaders and engage over 220,000 youth.

2. Scope of the Program

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

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

1. Assumptions made for the Program

In Kentucky, much of the clientele that extension professionals work with have not had the training or experiences that lead to the development of leadership and volunteerism. But volunteers can provide local communities with opportunities that otherwise would not be available. Leadership training is readily available in some parts of Kentucky in the public and private sectors, with costs varying widely. With limited funding and volunteer committees, many local committees and nonprofit institutions are not educated in the theory and models necessary to generate, educate, mobilize and sustain volunteers.

Providing youth with leadership and personal development opportunities is of great importance in Kentucky. According to the most recent Independent Sector data concerning national adult volunteerism, 44 percent of adults volunteer (http://www.independentsector.org/programs/research/volunteer_time.html). This represents the equivalent of nine million full-time employees. Creating a culture of youth giving back to their communities through leadership roles serves the multi-purpose process of personal empowerment and community development, and helps to ensure a new generation of involved, volunteering youth. With increasing dropout rates and escalating poverty, providing youth with these valuable skills and attitudes can break negative generational patterns and prepare youth to assume leadership roles today and tomorrow.

Analysis of the "Step Up to Leadership" program (Jones, 2005: Stepping Up to Leadership Through Positive Youth Development, UK) indicates that numerous developmental assets are met through involvement in this program. Meeting these developmental assets creates positive social change in the child.

4-H volunteers repeatedly voiced frustration over the lack of available resources to use when working with clubs. In 2002, the Strategic Plan for Kentucky 4-H Volunteerism identified the need to develop additional volunteer certification programs. The need for educational resource materials had been evident for quite some time. Because of its high level of participation and risk, the livestock program was given the highest priority.

It is assumed that the resources for this program will continue to be available for both the Cooperative Extension Service and the participants and that both youth and adults will continue to express interest in the programs and projects that require certified volunteers.

2. Ultimate goal(s) of this Program

Through the training of leaders for its own programs, and through the initiation of countywide leadership programs, extension will provide trained volunteers for the public well-being, expanding the capacity of individuals and groups to engage in civic action for the benefit of their communities and Kentucky as a whole.

Through the adoption and implementation of the information and concepts in the Step Up to Leadership curriculum the following will occur:

•Youth will utilize the leadership skills gained through training and involvement in extension programs to serve as leaders in 4-H and outside organizations •Youth will be able to identify and address critical issues that face their communities •Youth will gain the communication, presentation, teamwork, and leadership skills necessary to be competitive in the current job market •Youth will serve in volunteer roles, creating a sense of belonging and volunteer spirit to 4-H and outside programs.

Through the adoption and implementation of the information and concepts of the livestock volunteer certification program the following will occur:

•Youth across the Commnwealth will receive the same educational information •Volunteers will increase their knowledge, level of competence and skills in leadership and animal sciences •Kentucky 4-H livestock club members will pursue careers in animal agriculture •Youth will develop valuable leadership, communications, analytical, and job-preparedness skills making them more active and productive members of society.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	77.0	1.5	0.0	0.0
2013	77.0	2.0	0.0	0.0
2014	77.0	2.0	0.0	0.0
2015	77.0	2.0	0.0	0.0
2016	77.0	2.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Community leadership development programs will be conducted for the general public as well as training for those serving in leadership roles in extension councils and district boards, extension homemaker organizations and 4-H programs. •Extension will continue to utilize SEAL (Strengthening Extension Advisory Leadership) materials with extension leaders and in training facilitators to conduct local community programs. •Counties will identify volunteers and send them to certification workshops, thereby reaching more 4-H members across Kentucky. •Kentucky 4-H members will receive consistent, uniform education through school enrichment programs, after-school programs, day and /or summer camps and through communications events in the 4-H "Step Up to Leadership" and 4-H Communications - Speeches and Demonstrations projects and programs.

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

Extension

Direct Methods	Indirect Methods
☑ Education Class	☐ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☑ One-on-One Intervention	☐ TV Media Programs
☐ Demonstrations	☑ Web sites
☐ Other 1	☑ Other 1 (social networking)
☐ Other 2	☐ Other 2

3. Description of targeted audience

• General public as well as those serving in leadership roles in extension councils and district boards, extension homemaker organizations and 4-H programs •Volunteers from Kentucky counties with appropriate background and experience in subject matter that we can build on for 4-H subject matter and leadership training •"Step up to Leadership" curriculum and activities are designed for youth in grades K-12 Community-based non-profit organizations

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	500000	150000	264000	100000
2013	500000	150000	264000	100000
2014	500000	150000	264000	100000
2015	500000	150000	264000	100000
2016	500000	150000	264000	100000

2. (Standard Research Target) Number of Patent Applications Submitted

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Published research journal articles

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of citizens indicating increased leadership knowledge, skills, or confidence through participation in leadership programs.
2	Number of adults and youth utilizing improved skills in communication, problem solving, or group process in addressing community issues and needs.
3	Number of people who are involved in addressing significant community issues.

Outcome # 1

1. Outcome Target

Number of citizens indicating increased leadership knowledge, skills, or confidence through participation in leadership programs.

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:38000 **2013:**38000 **2014:**38000 **2015:**38000 **2016:**38000

3. Associated Knowledge Area(s)

- ☑ 802 - Human Development and Family Well-Being
- ☑ 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- ☑ 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 2

1. Outcome Target

Number of adults and youth utilizing improved skills in communication, problem solving, or group process in addressing community issues and needs.

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:53000 **2013:**53000 **2014:**53000 **2015:**53000 **2016:**53000

3. Associated Knowledge Area(s)

- ☑ 802 - Human Development and Family Well-Being
- ☑ 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- ☑ 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 3

1. Outcome Target

Number of people who are involved in addressing significant community issues.

2. Outcome Type :

- ◉ Change in Knowledge Outcome Measure
- ◯ Change in Action Outcome Measure
- ◯ Change in Condition Outcome Measure

2012:20000 **2013:**20000 **2014:**20000 **2015:**20000 **2016:**20000

3. Associated Knowledge Area(s)

- ☑ 802 - Human Development and Family Well-Being
- ☑ 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- ☑ 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- ☐ Natural Disasters (drought, weather extremes, etc.)
- ☑ Economy
- ☐ Appropriations changes
- ☑ Public Policy changes

- ☐ Government Regulations
- ☑ Competing Public priorities
- ☑ Competing Programmatic Challenges
- ☐ Populations changes (immigration, new cultural groupings, etc.)
- ☐ Other

Description

• Cost of inputs and transportation can impact participation of adults and youth in these program activities. •Time commitment and cost of training volunteers can impact the availability of a trained certified volunteer for each county.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- ☑ After Only (post program)
- ☐ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☐ During (during program)
- ☐ Time series (multiple points before and after program)
- ☑ Case Study
- ☑ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Focus of evaluation will be on participant numbers in activities and events as well as adoption of leadership practices and principles for more effective leadership/communications. Assessment will occur through a variety of methods.

2. Data Collection Methods

- ☑ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☑ Mail
- ☑ Telephone
- ☑ On-Site

Interview

- ☐ Structured
- ☑ Unstructured

- ☐ Case Study
- ☑ Observation
- ☐ Portfolio Reviews
- ☐ Tests
- ☐ Journals
- ☐ Other

Description

Evaluations will be both formal and informal.Observation in addition to participant and sampling for surveys to determine adoption of practices and practice changes for effective leadership to address local community issues.

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Diet, Nutrition and Healthy Lifestyles

2. Brief summary about Planned Program

Encourage the adoption of healthy lifestyles through a focus on proper diet and nutrition, physical activity, disease prevention, and injury reduction. Insure a safe and high quality supply of food for Americans. Provide a healthy and safe home and community environment.

Research will include basic investigations of the impacts food components on human health and nutrition, including those with positive and negative effects. The behavior of insects that serve as vectors of human disease and new ways to control these pests are also a significant component of research promoting a healthy lifestyle.

KSU will offer programs and activities to promote healthy food choices and healthy lifestyles.

3. Program existence :

- ○ New (One year or less)
- ○ Intermediate (One to five years)
- ◉ Mature (More than five years)

4. Program duration :

- ○ Short-Term(One year or less)
- ○ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ○ No

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

- ◉ Yes
- ○ No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
502	New and Improved Food Products	0%	0%	25%	0%
503	Quality Maintenance in Storing and Marketing Food Products	0%	0%	10%	0%
702	Requirements and Function of Nutrients and Other Food Components	5%	0%	20%	63%
703	Nutrition Education and Behavior	55%	50%	0%	25%
721	Insects and Other Pests Affecting Humans	0%	0%	20%	0%
722	Zoonotic Diseases and Parasites Affecting Humans	0%	0%	10%	0%
723	Hazards to Human Health and Safety	5%	20%	10%	12%
724	Healthy Lifestyle	35%	30%	5%	0%
	Total	100%	100%	100%	100%

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

1. Situation and priorities

According to the Center for Disease Control, Kentucky is ranked among the lowest on a health-related quality of life index. Kentuckians feel unhealthy (physically or mentally) averaging more than seven days per month. Nearly 25 percent of Kentuckians consider their health status to be poor - second worst in the nation. Diet, nutrition and exercise are some of the most effective tools for self-care and prevention of chronic diseases yet only one in five Kentuckians consume five servings of fruits or vegetables per day and 26.6 percent of Kentuckians report no participation in leisure time physical activities. Obesity is a factor in the development of diabetes, heart disease and cancer. Kentucky had the nation's sixth highest rate of obesity at 24.4 percent in 2004.

Almost half those people with type 2 diabetes are undiagnosed. Research shows that maintaining a healthy weight, lowering fat intake, and participating in regular physical activity dramatically decreases diabetes risk.

Cancer is the second leading cause of death in Kentucky. Kentucky cancer-related deaths are slow to decline with increased rates for some types of cancer in women and minorities.

All Kentuckians deserve to live in housing that is healthy and safe. Environmental health hazards in housing affect the quality of life for individuals and families and add billions to health care costs nationally. Family household budgets are strained due to costs related to health and safety problems caused from defective or improperly maintained home systems and use of potentially hazardous products. Health hazards in housing contribute to asthma (dust allergens, mold and pests), toxic materials (lead, asbestos, chemical pesticides and household products), dangerous gases (carbon monoxide and radon) and other safety and health concerns. These concerns are integrated into extension and research efforts relating to housing structure, building systems, product selection, maintenance, and operations. These considerations are also addressed in recommended procedures in recovery and clean-up efforts for disasters and emergencies including identification of, protection from, and elimination of contaminates. Efforts will also include identification of housing conditions that pose the greatest health risks (older, low-

income, substandard). This will yield the greatest improvement in health outcomes and assist low-income families. New issues on the horizon include avian flu and mumps.Preparing individuals, families, and communities requiresproviding training and toolsin case of anemergency and/or outbreak of infectious diseases.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Kentucky continues to be engaged in nutritional research including:
•benfits of zinc in diets of people who over-consume calories, especially fat.Research suggests sufficent consumption of micronutrients can provide protection from the harmful effects of high-fat diets •influence of dietary and environmental factors on nutrient requirements so optimal nutrient requirements can be established •the role of dietary antioxidants such as the increased consumption of vitamin E and its effect on the development of liver cancer •effects of diets and increased exercise on longevity •key behavioral measures purported to contribute to excessive weight gain in children, including anthropometric and physiological measures, and determining excessive weight gain prevention strategies

Diet, health, nutrition and exercise will continue to be among the most often searched topics on the Internet and in libraries.

School policies will continue to allow time for nutrition and fitness programs during and after school hours.

Resources will continue to be available for the development and delivery of resources and materials for healthy families and communities.

The health and well-being of Kentuckians will be improved through interventions that change policies, communities, families, and individuals.

2. Ultimate goal(s) of this Program

• Through the adoption and implementation of the information and concepts of the Jump into Foods and Fitness Program, youth will reduce their risk for weight-related or preventable diseases through healthier lifestyle choices. •Adults and youth will have increased ability to manage body weight and related illnesses through self-monitoring and goal setting. •More Kentuckians will maintain a healthy weight. •Healthy and safe housing, through improved living conditions with healthier indoor health environments for families and children, will be achieved.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	95.0	2.0	3.0	11.0
2013	95.0	2.0	3.0	11.0
2014	95.0	2.0	4.0	11.0
2015	95.0	2.0	4.0	11.0
2016	95.0	2.0	4.0	10.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Contacts with clientele related to diet and health will include volunteer training, health fairs, Extension Homemaker leader lessons, safe night programs, healthy homes programs, and more.
• Multidisciplinary programs aimed at strengthening local food systems. Examples of programs to be offered will include: 4-H school enrichment, after-school programs and dayand/or summer camp programs on 4-H Jump into Foods and Fitness. Weight--the Reality Series - Body Image and Get Moving Kentucky physical activity and weight management programs, LEAP-Literacy, Eating and Activity for Preschool Program and Exploring MyPyramid with Professor Popcorn for elementary school age children. •EFNEP - Expanded Food and Nutrition Educational Program for low income families with children. •Multi-agency activities related to diet and health. •Continued research in the areas of nutrient effects on high-fat diets, antioxidant effects on cancer prevention, environmental effects on nutrient requirements and more.

Major research efforts in this program area include: • Food consumption and physical activity are being examined as indicators of risk for obesity in preschool children. •The combined effects of selected vegetables on bone metabolism are under study as it pertains to osteoporosis. • The nutritional status and health of agricultural workers. • Bioprotective effects of phytochemicals to mediate immunity and antigenotoxic potential

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

Extension

Direct Methods	Indirect Methods
☑ Education Class	☐ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☐ One-on-One Intervention	☑ TV Media Programs
☑ Demonstrations	☑ Web sites
☐ Other 1	☑ Other 1 (social networking)
☐ Other 2	☐ Other 2

3. Description of targeted audience

• Extension agents •Community agencies •Volunteer leaders •Parents •Grandparents •General public •Public housing residents •Scientific community •Jump into Food and Fitness participants: curriculum designed for youth ages 8-11

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	500000	100000	250000	70000
2013	500000	100000	250000	70000
2014	500000	100000	250000	70000
2015	500000	100000	250000	70000
2016	500000	100000	250000	70000

2. (Standard Research Target) Number of Patent Applications Submitted

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	14	0	14
2013	14	0	14
2014	14	0	14
2015	14	0	14
2016	14	0	14

V(H). State Defined Outputs

1. Output Target

- Published research journal articles

2012:14 **2013:**14 **2014:**14 **2015:**14 **2016:**14

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of individuals who experience a change in knowledge, opinion, skills, or aspirations regarding lifestyle changes (diet, exercise, etc.) that improve personal health.
2	Number of citizens reporting making lifestyle changes for the purpose of improving their health.
3	Number of individuals implementing personal health protection practices appropriate for their life stage (preventive health practices, participation in screening and detection opportunities, immunizations, etc.).
4	Number of individuals adopting at least one new safety practice (bicycle helmet, smoke detector, radon detector, fire extinguisher, farm safety devices, ATV safety, etc.).

Outcome # 1

1. Outcome Target

Number of individuals who experience a change in knowledge, opinion, skills, or aspirations regarding lifestyle changes (diet, exercise, etc.) that improve personal health.

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:85000 **2013:**85000 **2014:**85000 **2015:**85000 **2016:**85000

3. Associated Knowledge Area(s)

- ☐ 502 - New and Improved Food Products
- ☐ 503 - Quality Maintenance in Storing and Marketing Food Products
- ☐ 702 - Requirements and Function of Nutrients and Other Food Components
- ☑ 703 - Nutrition Education and Behavior
- ☐ 721 - Insects and Other Pests Affecting Humans
- ☐ 722 - Zoonotic Diseases and Parasites Affecting Humans
- ☑ 723 - Hazards to Human Health and Safety
- ☑ 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 2

1. Outcome Target

Number of citizens reporting making lifestyle changes for the purpose of improving their health.

2. Outcome Type :

- ( ) Change in Knowledge Outcome Measure
- (●) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:40000 **2013:**40000 **2014:**40000 **2015:**40000 **2016:**40000

3. Associated Knowledge Area(s)

- ☐ 502 - New and Improved Food Products
- ☐ 503 - Quality Maintenance in Storing and Marketing Food Products
- ☐ 702 - Requirements and Function of Nutrients and Other Food Components
- ☑ 703 - Nutrition Education and Behavior
- ☐ 721 - Insects and Other Pests Affecting Humans
- ☐ 722 - Zoonotic Diseases and Parasites Affecting Humans
- ☑ 723 - Hazards to Human Health and Safety
- ☑ 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 3

1. Outcome Target

Number of individuals implementing personal health protection practices appropriate for their life stage (preventive health practices, participation in screening and detection opportunities, immunizations, etc.).

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:26000 **2013:**26000 **2014:**26000 **2015:**26000 **2016:**26000

3. Associated Knowledge Area(s)

- ☐ 502 - New and Improved Food Products
- ☐ 503 - Quality Maintenance in Storing and Marketing Food Products
- ☐ 702 - Requirements and Function of Nutrients and Other Food Components
- ☑ 703 - Nutrition Education and Behavior
- ☑ 721 - Insects and Other Pests Affecting Humans
- ☑ 722 - Zoonotic Diseases and Parasites Affecting Humans
- ☑ 723 - Hazards to Human Health and Safety
- ☑ 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 4

1. Outcome Target

Number of individuals adopting at least one new safety practice (bicycle helmet, smoke detector, radon detector, fire extinguisher, farm safety devices, ATV safety, etc.).

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:26000 **2013:**26000 **2014:**26000 **2015:**26000 **2016:**26000

3. Associated Knowledge Area(s)

- ☐ 502 - New and Improved Food Products
- ☐ 503 - Quality Maintenance in Storing and Marketing Food Products
- ☐ 702 - Requirements and Function of Nutrients and Other Food Components
- ☐ 703 - Nutrition Education and Behavior
- ☐ 721 - Insects and Other Pests Affecting Humans
- ☐ 722 - Zoonotic Diseases and Parasites Affecting Humans
- ☑ 723 - Hazards to Human Health and Safety
- ☐ 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- ☐ Natural Disasters (drought, weather extremes, etc.)
- ☑ Economy
- ☑ Appropriations changes
- ☑ Public Policy changes
- ☑ Government Regulations
- ☑ Competing Public priorities
- ☑ Competing Programmatic Challenges
- ☐ Populations changes (immigration, new cultural groupings, etc.)
- ☐ Other

Description

Lack of accessibility to youth due to school policy changes.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- ☑ After Only (post program)
- ☐ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☑ During (during program)
- ☐ Time series (multiple points before and after program)
- ☐ Case Study
- ☑ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Various outcomes will be measured that relate to participation, knowledge gained and practice changes by participants in extension programs.

2. Data Collection Methods

- ☑ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☐ Mail
- ☐ Telephone
- ☐ On-Site

Interview

- ☐ Structured
- ☐ Unstructured

☐ Case Study
☑ Observation
☐ Portfolio Reviews
☐ Tests
☐ Journals
☐ Other

Description

Evaluations will include reporting participant numbers as well as practice changes as a result of participation in extension programs. Surveys, observation, pre- and post-tests as well as follow-up surveys will be utilized.

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Social and Economic Opportunity

2. Brief summary about Planned Program

Improve the capacity of communities to enhance the economic opportunities and quality of life of their citizens. Focus will be on engaging local citizenry to identify local assets, community needs assessment, development of tourism, including agritourism, entrepreneurship, and eCommerce.

KSU will continue to support small and minority business development trainings and technical assistance.

KSU COLTS Programming for youth (COLTS = Creating Opportunities for Leadership, Transformation, and Scholarship), which includes AgDiscovery, Research & Extension Apprenticeship Program (REAP), Pathways and Access to Careers in Technology (PACT), Summer Transportation Institute (STI), and Youth Entrepreneurship Program (YEP) will expand beyond summer programming to year-round outreach efforts.

KSU now has an ADA (American with Disabilities) coordinator assisting with professional development of staff on increasing access to programming opportunities.

KSU will initiate a distinguished lecture series that focuses on social and economic opportunities for historically disadvantages audiences and issues.

KSU will open its Center for Families and Children to provide early childhood education (pre-K), after-school enrichment, parent engagement intiatives, and professional training opportunities for child and family development.

3. Program existence :

- ○ New (One year or less)
- ○ Intermediate (One to five years)
- ◉ Mature (More than five years)

4. Program duration :

- ○ Short-Term(One year or less)
- ○ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ○ No

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

- ◉ Yes
- ○ No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
131	Alternative Uses of Land	0%	10%	0%	10%
601	Economics of Agricultural Production and Farm Management	10%	5%	10%	30%
602	Business Management, Finance, and Taxation	0%	5%	15%	0%
603	Market Economics	0%	5%	10%	0%
604	Marketing and Distribution Practices	10%	5%	5%	30%
605	Natural Resource and Environmental Economics	0%	10%	5%	0%
606	International Trade and Development	0%	0%	10%	0%
607	Consumer Economics	0%	20%	15%	0%
608	Community Resource Planning and Development	80%	20%	15%	30%
610	Domestic Policy Analysis	0%	0%	15%	0%
805	Community Institutions, Health, and Social Services	0%	20%	0%	0%
	Total	100%	100%	100%	100%

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

1. Situation and priorities

In addition to the economic down turn facing the nation, Kentucky has economic problems that can hardly be understated. These economic problems and conditions affect nearly every segment of the Commonwealth's population, especially Kentucky's children, one in four of whom live in poverty. The empowerment of people and communities through research-based information and education resulting in enhanced economic opportunity and quality of life is a goal for every Kentuckian. County extension agents across Kentucky are instrumental in faciliting community dialogue sessions in which community members can talk about relevant issues.

Some of Kentucky's larger manufacturing facilities with the best wage and benefit packages have downsized with operations moving to Mexico and overseas. This shift has resulted in the loss of thousands of jobs. Kentucky's unemployment rate is over 10%. Future jobs comparable in wages and benefits to those lost are not likely. Local community issue assessments conducted by county extension councils rank future employment, job insecurity, and financial security as the top priorities facing communities.

Kentucky citizens could just sit idly by, but as a result of successful efforts in public policy education and strategic planning some communities have created hope by creatively exploring options such as heritage skills, arts, crafts, festivals, agritourism, home and micro-processing, home-based businesses and more.

Value opportunities in agriculture creates jobs; many of these jobs are in rural communities. Value opportunities create expanded demand for local skills, arts, tourism opportunities and agricultural products. These initiatives often require encouraging local entrepreneurial creativity and risk taking as well as building a support network of resources to enhance chances for their successful development. Kentucky is making substantial resource commitments to support value-adding innovations that use local agricultural products, particularly in the areas of livestock, horticulture, secondary wood products and agritourism. The strategy is to enhance the competitiveness and scope of marketing opportunities for local farmers as these sectors are better developed.

4-H projects involve youth in studying their community and conducting individual and/or group activities to meet community needs. Community Service Learning provides youth with opportunities to focus on community needs with a special emphasis on reflection and the use of the experiential learning model. Youth develop skills that can be transferred to future life experiences. The 4-H honors program involves teens as leaders to a group of youth conducting community service learning projects.High school students are learning about career options through entrepreneurship and science-based educational outreach programs.

Many countries are changing their agricultural trade policies through the World Trade Organization and other avenues.The effects of these changes must be understood to help agricultural producers and agribusinesses adapt to a changing world economic environment.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Manufacturing jobs, although historically important to Kentucky's economy, do not seem to be the major economic engine of the future. In many locations, opportunities for the future will be in the rapidly expanding tourism industry. The food service industry, a component of the tourism industry, is now the country's largest employer. Kentucky's geographic location plus its rich heritage and associated crafts and skills, the Bluegrass with its horse industry, its heritage in country music, the country's largest cave region, and the country's only Corvette manufacturing plant are just few reasons why tourism in Kentucky is poised for expansion. Changes in Kentucky's agricultural structure, including but not limited to decreased tobacco production, have led to increased interest in agricultural diversification including value-added opportunities and agritourism. There is a statewide agritourism initiative that relates to previous and continuing efforts in extension work that focuses on agritourism in Kentucky.

The future success of communities is tied to the ability of the citizenry and their leaders to assess their assets and move forward with plans to utilize these assets in improving local opportunities.

2. Ultimate goal(s) of this Program

• Improve the capacity of communities to identify and address social and economic issues that impact the lives of citizens by active participation in community problem-solving •Increased income realized by farmers and local entrepreneurs related to economic or enterprise development as a result of participating in programs conducted by extension

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	25.0	2.5	3.5	4.0
2013	25.0	2.5	3.5	4.0
2014	25.0	2.5	3.5	4.0
2015	25.0	2.5	5.0	4.0
2016	25.0	2.5	5.0	4.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Delivery of educational programming and workshops on topics such as understanding community dynamics, asset analysis, business planning, marketing and hospitality management •Efforts to educate producers about marketing and adding value to Kentucky Agricultural products including MarketMaker, Agritourism, Farmers Markets, Kentucky Proud Campaign, specialty livestock markets and marketing programs, Kentucky Entrepreneurial Institute, etc. •Formation of nontraditonal advisory councils in the areas of community and economic development, tourism, agritourism, and arts where appropriate need and resources are identified •Research projects including estimating how changing agricultural trade policies and macroeconomic conditions influence U.S. agricultural exports, university engagement in community-based organizations in the Black Belt South, and urban vs. rural food access and cost •The Family Economics and Management Program will focus on Earned Income Credit and Tax Credit opportunities for Kentucky Families.Youth entrepreneurship educationEntrepreneurial development and

outreach to educate local officials and leaders on the importance of planning for economic development

KSU has research projects are focusing on aquaculture and livestock integrated into a farm analysis for limited resource farmers and documenting oral histories of black farmers in Kentucky.

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

Extension

Direct Methods	Indirect Methods
☑ Education Class	☐ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☑ One-on-One Intervention	☐ TV Media Programs
☐ Demonstrations	☑ Web sites
☐ Other 1	☐ Other 1
☐ Other 2	☐ Other 2

3. Description of targeted audience

• county extension agents •Kentucky crop, livestock, produce producers •entrepreneurs •agritourism providers •active and potential community leaders •4-H members • scientific community High school students, teachers, and counselors

Locally elected and appointed officials

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	275500	100000	14500	25000
2013	275000	100000	14500	25000
2014	275000	100000	14500	25000
2015	275000	100000	14500	25000
2016	275000	100000	14500	25000

2. (Standard Research Target) Number of Patent Applications Submitted

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	12	0	12
2013	12	0	12
2014	12	0	12
2015	12	0	12
2016	12	0	12

V(H). State Defined Outputs

1. Output Target

- Published research journal articles

2012:12 **2013:**12 **2014:**12 **2015:**12 **2016:**12

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of people involved in addressing significant community issues.
2	Number of ongoing coalitions with which extension is actively involved.
3	Number of people who are ready to enter the workforce.
4	Number of individuals reporting changes in knowledge, opinions, skills or aspirations related to economic or enterprise development.

Outcome # 1

1. Outcome Target

Number of people involved in addressing significant community issues.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:20000 **2013:**20000 **2014:**20000 **2015:**20000 **2016:**20000

3. Associated Knowledge Area(s)

- ☑ 131 - Alternative Uses of Land
- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☐ 602 - Business Management, Finance, and Taxation
- ☐ 603 - Market Economics
- ☑ 604 - Marketing and Distribution Practices
- ☐ 605 - Natural Resource and Environmental Economics
- ☐ 606 - International Trade and Development
- ☐ 607 - Consumer Economics
- ☑ 608 - Community Resource Planning and Development
- ☐ 610 - Domestic Policy Analysis
- ☑ 805 - Community Institutions, Health, and Social Services

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 2

1. Outcome Target

Number of ongoing coalitions with which extension is actively involved.

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:2100 **2013:**2100 **2014:**2100 **2015:**2100 **2016:**2100

3. Associated Knowledge Area(s)

- ☐ 131 - Alternative Uses of Land
- ☑ 601 - Economics of Agricultural Production and Farm Management
- ☑ 602 - Business Management, Finance, and Taxation
- ☐ 603 - Market Economics
- ☑ 604 - Marketing and Distribution Practices
- ☑ 605 - Natural Resource and Environmental Economics
- ☑ 606 - International Trade and Development
- ☑ 607 - Consumer Economics
- ☑ 608 - Community Resource Planning and Development
- ☐ 610 - Domestic Policy Analysis
- ☑ 805 - Community Institutions, Health, and Social Services

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 3

1. Outcome Target

Number of people who are ready to enter the workforce.

2. Outcome Type :

- ( ) Change in Knowledge Outcome Measure
- (●) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:5000 **2013:**5000 **2014:**5000 **2015:**5000 **2016:**5000

3. Associated Knowledge Area(s)

- ☐ 131 - Alternative Uses of Land
- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☐ 602 - Business Management, Finance, and Taxation
- ☐ 603 - Market Economics
- ☐ 604 - Marketing and Distribution Practices
- ☐ 605 - Natural Resource and Environmental Economics
- ☐ 606 - International Trade and Development
- ☐ 607 - Consumer Economics
- ☑ 608 - Community Resource Planning and Development
- ☐ 610 - Domestic Policy Analysis
- ☐ 805 - Community Institutions, Health, and Social Services

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 4

1. Outcome Target

Number of individuals reporting changes in knowledge, opinions, skills or aspirations related to economic or enterprise development.

2. Outcome Type :

- ◉ Change in Knowledge Outcome Measure
- ◯ Change in Action Outcome Measure
- ◯ Change in Condition Outcome Measure

2012:30000 **2013:**30000 **2014:**30000 **2015:**30000 **2016:**30000

3. Associated Knowledge Area(s)

- ☐ 131 - Alternative Uses of Land
- ☑ 601 - Economics of Agricultural Production and Farm Management
- ☑ 602 - Business Management, Finance, and Taxation
- ☑ 603 - Market Economics
- ☑ 604 - Marketing and Distribution Practices
- ☑ 605 - Natural Resource and Environmental Economics
- ☐ 606 - International Trade and Development
- ☐ 607 - Consumer Economics
- ☑ 608 - Community Resource Planning and Development

- ☑ 610 - Domestic Policy Analysis
- ☐ 805 - Community Institutions, Health, and Social Services

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- ☑ Natural Disasters (drought, weather extremes, etc.)
- ☑ Economy
- ☑ Appropriations changes
- ☑ Public Policy changes
- ☑ Government Regulations
- ☑ Competing Public priorities
- ☑ Competing Programmatic Challenges
- ☐ Populations changes (immigration, new cultural groupings, etc.)
- ☐ Other

Description

• Programs in this arena traditionally compete for dollars for development purposes. Likewise, agritourism dollars compete with traditional tourism dollars •Increasing energy costs will likely impact out-of state travel for tourism, possibly reducing dollars brought into Kentucky, but likely keep Kentucky dollars in the Commonwealth. Increasing energy costs could also likely impact people driving to more remote locations for agritourism venues

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- ☑ After Only (post program)
- ☐ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☑ During (during program)
- ☐ Time series (multiple points before and after program)
- ☐ Case Study
- ☐ Comparisons between program participants (individuals, group, organizations) and non-participants

- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Evaluation will focus on numbers of Extension users that participate in Extension programs in addition to those who adopt or improve practices or approachs to economic development and business as a result of participating in Extension Programs. Other measures are:
•journal articles •number of graduate students trained •related grant proposals written •design and conduct discovery research

2. Data Collection Methods

- ☑ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☑ Mail
- ☑ Telephone
- ☑ On-Site

Interview

- ☐ Structured
- ☑ Unstructured

- ☐ Case Study
- ☑ Observation
- ☐ Portfolio Reviews
- ☐ Tests
- ☑ Journals
- ☐ Other

Description

Evaluation will focus on participation numbers and also include pre- and post-tests, follow-up assessment and observation of adopton of practices and behavior change as a result of participating in extension programs.

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Global Food Security and Hunger

2. Brief summary about Planned Program

Support a productive, profitable, competitive, and sustainable agricultural production and marketing system in a changing agricultural environment. While supporting traditional production agriculture, there is a need to generate new research and provide new and accurate information on production and marketing of alternative and supplemental agricultural commodities, as well as labor-saving techniques and techniques for reducing production inputs. New crops will also mean new marketing opportunities.Research will maximize the sustainable production of crops and livestock.

KSU will focus on ideal breed crosses for goat producers and assist with the development of marketing groups, will provide FAZD-CASHN information on foreign animal and zoonotic diseases in addition to other direct on-farm technical assistance and instruction, will provide an animal science demonstration for high school and undergraduate students to gain practical experience, knowledge and training in the care and treatment of small ruminant and large animals, and will provide outreach through its Center for Sustainability of Farms and Families with a focus on sustainability of enterprises for small, limited resource, and minority communities and families.

KSU will develop an Aquatic Production Tech Lab to evaluate and develop intensive re-circulating systems for research on the production of fish and shrimp indoors under controlled conditions.

KSU is exploring international partnerships in Aquaculture, in addition with Peace Corps, numerous Central American countries, Africa, and the Caribbean, as well as with other 1890 institutions.

KSU is expanding its animal science capacity in both research and extension with the addition of livestock at its Research and Demonstration Farm.

3. Program existence :

- ○ New (One year or less)
- ○ Intermediate (One to five years)
- ◉ Mature (More than five years)

4. Program duration :

- ○ Short-Term(One year or less)
- ○ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ○ No

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

- ◉ Yes
- ○ No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	5%	0%	0%	5%
201	Plant Genome, Genetics, and Genetic Mechanisms	0%	0%	10%	5%
204	Plant Product Quality and Utility (Preharvest)	5%	0%	0%	5%
205	Plant Management Systems	30%	25%	15%	5%
211	Insects, Mites, and Other Arthropods Affecting Plants	0%	0%	10%	5%
212	Pathogens and Nematodes Affecting Plants	5%	10%	10%	5%
215	Biological Control of Pests Affecting Plants	0%	0%	0%	5%
216	Integrated Pest Management Systems	0%	0%	0%	5%
301	Reproductive Performance of Animals	5%	5%	10%	5%
302	Nutrient Utilization in Animals	5%	0%	10%	5%
303	Genetic Improvement of Animals	5%	0%	5%	5%
304	Animal Genome	0%	0%	10%	5%
307	Animal Management Systems	25%	40%	5%	5%
308	Improved Animal Products (Before Harvest)	5%	0%	0%	5%
311	Animal Diseases	0%	10%	10%	5%
401	Structures, Facilities, and General Purpose Farm Supplies	5%	0%	0%	5%
402	Engineering Systems and Equipment	0%	0%	5%	5%
403	Waste Disposal, Recycling, and Reuse	0%	0%	0%	5%
601	Economics of Agricultural Production and Farm Management	0%	5%	0%	5%
604	Marketing and Distribution Practices	5%	5%	0%	5%
	Total	100%	100%	100%	100%

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

1. Situation and priorities

The approximate 83,000 farms in Kentucky average 165 acres per operation. Many of these farms are major producers of traditional agricultural commodities such as livestock, tobacco and grain. Others

are operated either on a part-time basis or involve limited resources. On traditional, non-traditional, small, and part-time operations, there is increasing interest in new and alternative agricultural commodities and industries including paw paws, aquaculture, goats, grapes and wine.

Historically, many rural communities have been significantly dependent on farm income for their economic viability. With the long-term contribution of tobacco as a major income generator in doubt, the successful development of new agricultural enterprises, the discovery of new uses for Kentucky commodities and crop residues along with new management strategies that fit the diversification needs of many of these producers will create new opportunities for these communities to maintain and enhance their income base. Successful risk management in farming will enable the state's agricultural economy to compete successfully.

Farm cash receipts in Kentucky for the 2004 were at record highs and 2005 a close second at slightly over $4 billion. Record cash receipts coupled with government and tobacco buyout payments will enable net farm income to remain strong for the next few years, barring major weather disasters and continued world economic growth.

Livestock cash receipts are increasing while crop receipts are decreasing (2005 vs. 2004). Equine, cattle and poultry represent 89 percent of all livestock receipts with the bulk of this income generally concentrated in a relatively small percentage of Kentucky farms and geographic regions. Poultry, seen as a relatively new commodity in Kentucky, is now second only to horses as the largest farm cash receipt generator, surpassing tobacco and cattle and calves.

The decline in crop income includes a $150 million decline in tobacco farm cash receipts (approximately half a billion since the buyout) and a $123 million decline in cash receipts of the state's major row crops including corn, soybeans and wheat. The only crop sector registering an increase was floriculture/ornamental.

Ongoing discovery research supporting competative agriculture includes plants and their systems, animals and their systems, biological engineering, development of food and non-food products, engineering for a biobased industry and economy, demand-controlled ventilation for residential indoor air quality, and optimal sensor measurement of food composition based on light.

2. Scope of the Program

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

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

1. Assumptions made for the Program

In Kentucky, grain crops are a staple of Kentucky's agricultural economy and show promise for continued growth as food, feed, oil and energy sources. Currently, grain farmers are not taking full advantage of economic and environmental inputs that could add to the economic well-being of individuals and the state as a whole. Kentucky is well poised to produce bio-based fuels for the future with recent announcements of biofuel plants to be located in Western Kentucky.

There is a need for in-depth training in all phases of beef production and management for major beef producers. Kentucky currently has more beef cattle than any state east of the Mississippi River and our agricultural sector has a window of opportunity to position Kentucky as the premier feeder calf-producing state in the United States. Continued development of the state's forage resources will likely be key to continued advancement in this area.

Kentucky farmers are finding that growing and selling fruit, vegetables, and ornamental crops as well as value-added products though local farmers' markets has become an effective way to generate income lost from tobacco production and as a way to supplement family income. County extension agents and producers have expressed a willingness for a more targeted programmatic approach as well as a series of fee-based classes of higher level, more technical, in-depth meetings and workshops where producers would become certified upon completion. We assume that budgets will be flexible enough to support and expand research and extension efforts in this area.

Opportunities continue to grow for locally produced meat products such as pastured poultry, eggs, beef, and honey. Additionally, market demand for safe and nutritious aquaculture products is growing.

2. Ultimate goal(s) of this Program

• Larger produce markets with more growers, vendors and consumers participating •Higher volume, high-quality Kentucky-grown fruits and vegetables being consumed by Kentucky families •Development of a certification program for Kentucky farmers' markets •Grain farmers utilizing best management practices while operating a sustainable enterprise which would add to the economic well-being of Kentucky agriculture •Economic development and environmental preservation stabilizing the beef industry as a mainstay of Kentucky agriculture •Advancements made by beef producers positioning Kentucky as the premier feeder calf producing state in the United States •Increasing opportunities for production of specialty chemicals and pharmaceuticals from plant natural products Developing best practices for the production and marketing of meat goats, pastured poultry, and aquaculture products. Increasing honeybee herds and honey production.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	180.0	16.0	55.0	13.5
2013	180.0	17.0	55.0	13.5
2014	180.0	17.0	55.0	13.5
2015	180.0	17.0	50.0	13.0
2016	180.0	15.0	50.0	12.0

V(F). Planned Program (Activity)

1. Activity for the Program

The development and transfer of technical resources is a critical dimension of a strategy to advance agriculture and the competitiveness of the state's agricultural economy.

•Field days, demonstration programs, plotwork and hands-on training by agents and specialists will continue to be important mechanisms for disseminating technical information on production agriculture and horticulture •Printed material, mass media, Web sites, audio, and electronic communications will be employed to disseminate the latest research findings on decision-making •Featured programs for this plan of work cycle will include: Grain Crops Academy, Master Grazer Program, Horse College and the

Innovative Tobacco Producer Program •Goat Production and Management Programs •Small Farm Program at KSU will focus on needs of small and limited resource farmers, •The Kentucky Fruit and Vegetable Conference plays a major role in commercial horticultural producer education •Third Thursday programs will be conducted at KSU and their research and demonstration farms will attract small and limited resource farmers and will also serve as training for County Extension Agents •Aquaculture and Fish Disease/Management Programs •Master Cattlemen and advanced Master Cattlemen programs will be conducted •Educational programs qualifying producers to receive Tobacco Settlement funds in the areas of goats, forages, bull selection and hay storage will inprove producer skills in these areas •New Research findings from KSU's Aquaculture Research center, pawpaw, goats, and honeybees will be the subject of field days and meetings to bolster the expanding alternative in Kentucky and the Southern Region Demonstration and training for appropriate production and processing of pastured poultry and honey. •Home-based processing training •On-site food demonstrations

Ongoing research at UK supporting competitive agriculture will include: •plants and their systems •animals and their systems •biological engineering •development of food and non-food products •engineering for a biobased industry and economy •demand-controlled ventilation for residential indoor air quality •optimal sensor measurement of food composition based on light

KSU has active research areas in areas of: • Aquaculture projects are concerned with the commercialization of paddlefish, nutrition and diet formulation for freshwater crustaceans, and developing technologies for raising largemouth bass. • Doe and kid production evaluation for meat goats is a relatively new research and extension thrust for KSU. • Pawpaw and primocane blackberries are under development as niche crops in Kentucky. • The control of Nosema diseases is being researched as a potential cause of colony collapse disorder (CCD) of honey bees.

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

Extension

Direct Methods	Indirect Methods
☑ Education Class	☐ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☑ One-on-One Intervention	☐ TV Media Programs
☑ Demonstrations	☑ Web sites
☐ Other 1	☐ Other 1
☐ Other 2	☐ Other 2

3. Description of targeted audience

• Kentucky farmer operations with agents recruiting and selecting producers for participation in Grain Academy, Master Cattlemen, Innovative Tobacco Grower Program, Horse College, and Master Grazer Programs •Farm owners, operators, absentee land owners with a variety of backgrounds and experiences •Farmers' market members and potential members •Community and farm leaders •Consumers •Extension agents

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	1270000	500000	39300	75000
2013	1270000	500000	39300	75000
2014	1270000	500000	39300	75000
2015	1270000	500000	39300	75000
2016	1270000	500000	39300	75000

2. (Standard Research Target) Number of Patent Applications Submitted

2012:6 **2013:**6 **2014:**6 **2015:**6 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	164	20	184
2013	164	20	184
2014	164	20	184
2015	164	20	184
2016	164	20	184

V(H). State Defined Outputs

1. Output Target

- Graduate research assistants engaged in research

2012:25 **2013:**25 **2014:**25 **2015:**25 **2016:**25

- Published research journal articles

2012:164 **2013:**164 **2014:**164 **2015:**164 **2016:**164

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of producers adopting one or more practices resulting in increased profits.
2	Economic impact of the adoption of farming practices resulting in increased profits.
3	Number of producers adopting resource management technologies (IRM, IPM, soil testing, soil fertility management, etc.).
4	Number of producers completing Grain Academy and Master Grazer Programs receiving their certification.
5	Number of individuals reporting changes in knowledge, opinions, skills and aspirations related to impact of public policies on agriculture and the environment.

Outcome # 1

1. Outcome Target

Number of producers adopting one or more practices resulting in increased profits.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:19000 **2013:**19000 **2014:**19000 **2015:**19000 **2016:**19000

3. Associated Knowledge Area(s)

- ☑ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 201 - Plant Genome, Genetics, and Genetic Mechanisms
- ☑ 204 - Plant Product Quality and Utility (Preharvest)
- ☑ 205 - Plant Management Systems
- ☑ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☑ 212 - Pathogens and Nematodes Affecting Plants
- ☑ 215 - Biological Control of Pests Affecting Plants
- ☐ 216 - Integrated Pest Management Systems
- ☑ 301 - Reproductive Performance of Animals
- ☑ 302 - Nutrient Utilization in Animals
- ☑ 303 - Genetic Improvement of Animals
- ☐ 304 - Animal Genome
- ☑ 307 - Animal Management Systems
- ☑ 308 - Improved Animal Products (Before Harvest)
- ☑ 311 - Animal Diseases
- ☑ 401 - Structures, Facilities, and General Purpose Farm Supplies
- ☑ 402 - Engineering Systems and Equipment
- ☐ 403 - Waste Disposal, Recycling, and Reuse
- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☑ 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 2

1. Outcome Target

Economic impact of the adoption of farming practices resulting in increased profits.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:24000000 **2013:**24000000 **2014:**24000000 **2015:**24000000 **2016:**24000000

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 201 - Plant Genome, Genetics, and Genetic Mechanisms
- ☐ 204 - Plant Product Quality and Utility (Preharvest)
- ☑ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 212 - Pathogens and Nematodes Affecting Plants
- ☐ 215 - Biological Control of Pests Affecting Plants
- ☑ 216 - Integrated Pest Management Systems
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☐ 303 - Genetic Improvement of Animals
- ☐ 304 - Animal Genome
- ☑ 307 - Animal Management Systems
- ☑ 308 - Improved Animal Products (Before Harvest)
- ☐ 311 - Animal Diseases
- ☑ 401 - Structures, Facilities, and General Purpose Farm Supplies
- ☐ 402 - Engineering Systems and Equipment
- ☐ 403 - Waste Disposal, Recycling, and Reuse
- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☑ 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 3

1. Outcome Target

Number of producers adopting resource management technologies (IRM, IPM, soil testing, soil fertility management, etc.).

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:23000 **2013:**23000 **2014:**23000 **2015:**23000 **2016:**23000

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☑ 201 - Plant Genome, Genetics, and Genetic Mechanisms
- ☐ 204 - Plant Product Quality and Utility (Preharvest)
- ☑ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 212 - Pathogens and Nematodes Affecting Plants
- ☐ 215 - Biological Control of Pests Affecting Plants
- ☐ 216 - Integrated Pest Management Systems
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☐ 303 - Genetic Improvement of Animals
- ☑ 304 - Animal Genome
- ☑ 307 - Animal Management Systems
- ☑ 308 - Improved Animal Products (Before Harvest)
- ☑ 311 - Animal Diseases
- ☐ 401 - Structures, Facilities, and General Purpose Farm Supplies
- ☐ 402 - Engineering Systems and Equipment
- ☐ 403 - Waste Disposal, Recycling, and Reuse
- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☐ 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 4

1. Outcome Target

Number of producers completing Grain Academy and Master Grazer Programs receiving their certification.

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:150 **2013:**150 **2014:**150 **2015:**150 **2016:**150

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 201 - Plant Genome, Genetics, and Genetic Mechanisms
- ☐ 204 - Plant Product Quality and Utility (Preharvest)
- ☑ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 212 - Pathogens and Nematodes Affecting Plants
- ☐ 215 - Biological Control of Pests Affecting Plants
- ☐ 216 - Integrated Pest Management Systems
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☐ 303 - Genetic Improvement of Animals
- ☐ 304 - Animal Genome
- ☑ 307 - Animal Management Systems
- ☐ 308 - Improved Animal Products (Before Harvest)
- ☐ 311 - Animal Diseases
- ☐ 401 - Structures, Facilities, and General Purpose Farm Supplies
- ☐ 402 - Engineering Systems and Equipment
- ☐ 403 - Waste Disposal, Recycling, and Reuse
- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☐ 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☐ 1890 Extension
- ☐ 1890 Research

Outcome # 5

1. Outcome Target

Number of individuals reporting changes in knowledge, opinions, skills and aspirations related to impact of public policies on agriculture and the environment.

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:20000 **2013:**20000 **2014:**20000 **2015:**20000 **2016:**20000

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 201 - Plant Genome, Genetics, and Genetic Mechanisms
- ☐ 204 - Plant Product Quality and Utility (Preharvest)
- ☐ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 212 - Pathogens and Nematodes Affecting Plants
- ☐ 215 - Biological Control of Pests Affecting Plants
- ☐ 216 - Integrated Pest Management Systems
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☐ 303 - Genetic Improvement of Animals
- ☐ 304 - Animal Genome
- ☐ 307 - Animal Management Systems
- ☐ 308 - Improved Animal Products (Before Harvest)
- ☐ 311 - Animal Diseases
- ☐ 401 - Structures, Facilities, and General Purpose Farm Supplies
- ☐ 402 - Engineering Systems and Equipment
- ☐ 403 - Waste Disposal, Recycling, and Reuse
- ☑ 601 - Economics of Agricultural Production and Farm Management
- ☑ 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- ☑ Natural Disasters (drought, weather extremes, etc.)
- ☑ Economy
- ☑ Appropriations changes
- ☑ Public Policy changes
- ☑ Government Regulations
- ☐ Competing Public priorities
- ☑ Competing Programmatic Challenges
- ☐ Populations changes (immigration, new cultural groupings, etc.)
- ☐ Other

Description

The following could affect cropping decisions beyond the scope of extension programs:
•soybean rust •management input costs •land prices •changes in weather patterns continued undiagnosted problems with honeybee populations

The following could affect management decisions beyond the scope of extension programs:
•changes in cattle diseases •markets •regulations

Fuel prices may affect consumer travel distances to participate in farm markets.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- ☑ After Only (post program)
- ☐ Retrospective (post program)
- ☐ Before-After (before and after program)
- ☑ During (during program)
- ☐ Time series (multiple points before and after program)
- ☐ Case Study
- ☑ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Evaluation will include participation numbers as well as producers changing or adopting practices associated with their participation in the planned programs.

2. Data Collection Methods

- ☑ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☑ Mail
- ☑ Telephone
- ☑ On-Site

Interview

- ☐ Structured
- ☑ Unstructured

- ☐ Case Study
- ☑ Observation
- ☐ Portfolio Reviews
- ☑ Tests
- ☐ Journals
- ☐ Other

Description

Data will be collected as participation numbers, pre- and post-tests, surveys, and follow-up observation designed to determine adoption of practices associated with these programs.

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Agricultural and Environmental Quality

2. Brief summary about Planned Program

Enhance environmental quality by encouraging the implementation of sound environmental practices and the effective stewardship of natural resources. This includes water quality, soil erosion, forest management programs, development of biofuels, integrated pest management, and master gardener programs.

KSU will increase the number of certified organic farms, use of organic practices, promote resource recycling, biodiversity, reduce farm energy and chemical use, and offer an environmental education program to study aquatic systems.

KSU is developing a river ecology Interpretive Center, which includes the restoration of the Old Federal Building in Frankfort and will provide educational workshops, school programs, and economic development while showcasing best practices in water quality protection and management.

3. Program existence :

- ○ New (One year or less)
- ○ Intermediate (One to five years)
- ◉ Mature (More than five years)

4. Program duration :

- ○ Short-Term(One year or less)
- ○ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ○ No

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

- ◉ Yes
- ○ No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	0%	0%	10%	0%
102	Soil, Plant, Water, Nutrient Relationships	5%	0%	25%	5%
104	Protect Soil from Harmful Effects of Natural Elements	0%	0%	5%	0%
112	Watershed Protection and Management	5%	10%	15%	5%
123	Management and Sustainability of Forest Resources	15%	5%	0%	0%
131	Alternative Uses of Land	0%	25%	5%	0%
133	Pollution Prevention and Mitigation	5%	0%	20%	5%
135	Aquatic and Terrestrial Wildlife	0%	0%	5%	0%
136	Conservation of Biological Diversity	0%	10%	0%	0%
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%	0%	0%	5%
205	Plant Management Systems	20%	5%	0%	5%
211	Insects, Mites, and Other Arthropods Affecting Plants	0%	15%	0%	35%
213	Weeds Affecting Plants	0%	10%	0%	25%
215	Biological Control of Pests Affecting Plants	0%	10%	5%	10%
216	Integrated Pest Management Systems	5%	5%	5%	5%
403	Waste Disposal, Recycling, and Reuse	0%	0%	5%	0%
605	Natural Resource and Environmental Economics	45%	5%	0%	0%
	Total	100%	100%	100%	100%

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

1. Situation and priorities

Kentucky has natural biological wealth and beauty that has drawn the attention of people for centuries. It is home to rare ecological communities including the Bluegrass savanna, which is now nearly extinct, and wetlands, now 80 percent destroyed. More than two million acres of tall grass prairies and barrens have been reduced to less than 200 acres.

While Kentucky's forests are diverse, they vary in quality and less than 3,000 acres of old growth forests remain. Forty-seven percent of Kentucky is forested, resulting in 3,500 forest industries and 30,000 jobs. Kentucky statutes now require that commercial timber harvesting operations be completed with the assistance of resource professionals (Master Loggers) due to a history of improper implementation of best

management practices for water quality and protection. In addition to timber harvesting activity, much of this same land is affected by coal production. Although the number of surface mines in Kentucky is only 17 percent of what it was 20 years ago, there is still ongoing need for work on reclamation of active and inactive sites. Many Kentucky farms are located on highly erodible land, or near water resources, or on steep-sloping terrain. Near the close of the 20th century, the biennial Kentucky Report to Congress on Water Quality listed agriculture as a significant contaminant source for nearly 25 percent of the assessed Kentucky streams and lakes not meeting designated-use criteria. Runoff pollution, also known as nonpoint source pollution, is the number one contributor to water pollution in Kentucky. Runoff pollution is caused by numerous activities such as mining, farming, logging, and construction.Increasingly, it also is caused by activities around the home such as use of lawn care products, dumping used motor oil, anti-freeze and other chemicals into ditches or down storm drains, and improperly treating household waste water.

Most soils in Kentucky are deficient in one or more of the major nutrients required for sustainable crop production; many are too acid, some are deficient in certain micronutrients, and some have adequate to excessive levels of all these. In most cases, there is great variability among fields on individual farms. Since the native content of soil nitrogen is insufficient for sustainable production of corn, tobacco, and small grains in most Kentucky soils, use of supplemental nitrogen from fertilizers or animal manures is necessary. Without use of fertilizers to some extent, crop yields from most soils in Kentucky would be non-sustainable.

Research on using organic waste from crop production to generate biofuels is gaining momentum. Seven percent of the U.S. corn crop is used for ethanol fuel production, having a modest impact on grain prices. U.S. biodiesel production is based mostly on soybean oil and recycled restaurant cooking oil. Currently there is a surplus of both corn and soybeans, and biodiesel production uses only a minor amount of these grains.

Kentucky's biological wealth may continue to be threatened in the future unless comprehensive and sustainable approaches are researched and utilized for harvesting the fruits of the land through logging, mining, and agriculture.

2. Scope of the Program

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

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

1. Assumptions made for the Program

As Kentucky becomes increasingly urbanized, the need increases to maintain harmony between communities and the environment, along with the longstanding efforts to strike a balance between agriculture and the environment. Kentucky's population will continue to grow and there will be increased demand for food and shelter, energy resources and outdoor recreational opportunities. But, to preserve Kentucky's deep-rooted heritage in the land and water resources, extension and research will need to find environmentally-friendly ways to maximize the potential in Kentucky's resources.

Kentucky is one of the top producing coal and timber states in the nation and has more miles of navigable rivers than any state in the nation. Approximately 1,500 loggers annually must obtain approved local continuing education since Kentucky statutes require a trained master logger be on site at harvesting operations. There will be ongoing strong demand for homeowner horticulture information which will continue to stretch resources and extension's ability to respond in a timely manner. The Cooperative Extension Service needs additional assistance in handling the seasonal request for home gardening,

landscape, and pest management information. Properly trained master gardeners have been able to successfully assist in addressing this resource shortfall. Woodlots provide additional income for Kentucky families. Through proper management of this resource, Kentucky forests can provide significant additional income with reduced impact on the environment. There is potential for reducing the nation's dependence on foreign energy supplies through the expansion and development of bio-based fuels from Kentucky products including corn, soybean, and waste biomass.

2. Ultimate goal(s) of this Program

• Greater understanding and appreciation of nature and Kentucky's natural resources as well as harmony between the land and public through educational programs related to pest management, pesticide management, water quality, woodlot owner education, master logger, master gardener and youth education programs. •Increased profits from Kentucky's forests while decreasing the environmental impact from harvesting operations. •The ability to respond accurately and in a timely manner to consumer horticulture questions.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	35.0	1.0	10.0	8.5
2013	35.0	1.0	10.0	8.5
2014	35.0	1.0	10.0	8.5
2015	35.0	1.0	10.0	8.5
2016	35.0	3.0	10.0	5.0

V(F). Planned Program (Activity)

1. Activity for the Program

The University of Kentucky and Kentucky State University are engaged in a wide range of programs geared towards achieving greater harmony between agriculture, people, and the environment. All components of the research and extension focus on the broader goal of practicing agricultural and related disciplines in a manner consistent with improving sustainability of resources and protecting ecosystem integrity. Program examples include:

• Master Gardener Program consisting of 12-15 three-hour sessions related to gardening, resource management, botany, soils, pesticides and pesticide safety •Master Logger program consisting of three one-day sessions focusing on best management practices, safety, laws and regulations •Integrated Pest Management programs including programs aimed at homeowner application of pesticies and fertilizers. •Woodlot owner education program focusing on best management practices, harvesting, contracts, wood products and alternative forest products. •Water quality, Water Pioneer, daycamps, and forestry camp programs aimed at developing a better understanding af stewardship between youth and the environment. Agricultural and environmental research will include: •the influence of forest harvesting on hydrology and water quality •challenges of large mammal conservation and restoration •prescribed fire as a management tool in forests •water research as it relates to karst landscapes, groundwater, and

streamside management.One example of agriculture and environmental quality research that is being conducted at UK is the Cane Run stream restoration project being conducted on a research farm. This project includes the installation of automatic surface water data acquisition equipment such as ISCOs and Level Trolls and establishment of cross sections to measure lateral erosion along the stream bank. Planning is also in place for implementing alternative riparian zone treatments along sections of the creek to test against the standard NRSC treatments being used along a different section of the creek.

•mine research related to disposal and management of waste water •preventing adverse compaction of soil on mine reclamation sites •methods for dealing with insect pests of urban landscapes •environmental impact and hazard of chemical pesticides in landscapes and turf •KSU Extension Programs will continue to support efforts related to policies to improve environmental quality •Gardendata.org •Organic Agricultural Programs

KSU research projects focusing on improving environmental quality include: soil conditioners and constructed wetlands for water quality improvement, the ecological impact of organic, conventional and biotechnology enhanced cropping methods are being evaluated using sweet corn as a model, weed control options in organic sweet corn and potato production is under study, and leaf beetle biodiversity is being used as an indicator of habitat biodiversity and environmental health in many Kentucky production and natural systems.

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

Extension

Direct Methods	Indirect Methods
☑ Education Class	☐ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☐ One-on-One Intervention	☐ TV Media Programs
☑ Demonstrations	☑ Web sites
☐ Other 1	☐ Other 1
☐ Other 2	☐ Other 2

3. Description of targeted audience

• General public •Community volunteers advanced in horticulture instruction and willing to give back to the community •Individual commercial loggers in Kentucky and those out of state wishing to do business in Kentucky •Woodlot owners •Farm owners and operators •Homeowners

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	204000	200000	68000	10000
2013	204000	200000	68000	10000

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2014	204000	200000	68000	10000
2015	204000	200000	68000	10000
2016	204000	200000	68000	10000

2. (Standard Research Target) Number of Patent Applications Submitted

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	40	0	40
2013	40	0	40
2014	40	0	40
2015	40	0	40
2016	40	0	40

V(H). State Defined Outputs

1. Output Target

- Graduate student research assistants

2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**10

- Published research journal articles

2012:40 **2013:**40 **2014:**40 **2015:**40 **2016:**40

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of individuals adopting practices that protect water quality.
2	Number of people utilizing forest management practices.
3	Number of acres upon which new or additional conservation practices are used.
4	Number of individuals adopting one or more practices related to conserving, sustaining and/or protecting soil resources.

Outcome # 1

1. Outcome Target

Number of individuals adopting practices that protect water quality.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:20000 **2013:**20000 **2014:**20000 **2015:**20000 **2016:**20000

3. Associated Knowledge Area(s)

- ☐ 101 - Appraisal of Soil Resources
- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 104 - Protect Soil from Harmful Effects of Natural Elements
- ☑ 112 - Watershed Protection and Management
- ☑ 123 - Management and Sustainability of Forest Resources
- ☐ 131 - Alternative Uses of Land
- ☑ 133 - Pollution Prevention and Mitigation
- ☐ 135 - Aquatic and Terrestrial Wildlife
- ☐ 136 - Conservation of Biological Diversity
- ☐ 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- ☐ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 215 - Biological Control of Pests Affecting Plants
- ☑ 216 - Integrated Pest Management Systems
- ☐ 403 - Waste Disposal, Recycling, and Reuse
- ☐ 605 - Natural Resource and Environmental Economics

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 2

1. Outcome Target

Number of people utilizing forest management practices.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:3500 **2013:**3500 **2014:**3500 **2015:**3500 **2016:**3500

3. Associated Knowledge Area(s)

- ☐ 101 - Appraisal of Soil Resources
- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 104 - Protect Soil from Harmful Effects of Natural Elements
- ☐ 112 - Watershed Protection and Management
- ☑ 123 - Management and Sustainability of Forest Resources
- ☐ 131 - Alternative Uses of Land
- ☐ 133 - Pollution Prevention and Mitigation
- ☐ 135 - Aquatic and Terrestrial Wildlife
- ☐ 136 - Conservation of Biological Diversity
- ☐ 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- ☐ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 215 - Biological Control of Pests Affecting Plants
- ☐ 216 - Integrated Pest Management Systems
- ☐ 403 - Waste Disposal, Recycling, and Reuse
- ☐ 605 - Natural Resource and Environmental Economics

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☐ 1890 Extension
- ☐ 1890 Research

Outcome # 3

1. Outcome Target

Number of acres upon which new or additional conservation practices are used.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:600000 **2013:**600000 **2014:**600000 **2015:**600000 **2016:**600000

3. Associated Knowledge Area(s)

- ☐ 101 - Appraisal of Soil Resources
- ☑ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 104 - Protect Soil from Harmful Effects of Natural Elements
- ☐ 112 - Watershed Protection and Management
- ☑ 123 - Management and Sustainability of Forest Resources
- ☑ 131 - Alternative Uses of Land
- ☐ 133 - Pollution Prevention and Mitigation
- ☐ 135 - Aquatic and Terrestrial Wildlife
- ☐ 136 - Conservation of Biological Diversity
- ☐ 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- ☐ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 215 - Biological Control of Pests Affecting Plants
- ☐ 216 - Integrated Pest Management Systems
- ☐ 403 - Waste Disposal, Recycling, and Reuse
- ☐ 605 - Natural Resource and Environmental Economics

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 4

1. Outcome Target

Number of individuals adopting one or more practices related to conserving, sustaining and/or protecting soil resources.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:20000 **2013:**20000 **2014:**20000 **2015:**20000 **2016:**20000

3. Associated Knowledge Area(s)

- ☐ 101 - Appraisal of Soil Resources
- ☑ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 104 - Protect Soil from Harmful Effects of Natural Elements
- ☐ 112 - Watershed Protection and Management
- ☑ 123 - Management and Sustainability of Forest Resources
- ☑ 131 - Alternative Uses of Land
- ☐ 133 - Pollution Prevention and Mitigation
- ☐ 135 - Aquatic and Terrestrial Wildlife
- ☐ 136 - Conservation of Biological Diversity
- ☐ 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- ☐ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 215 - Biological Control of Pests Affecting Plants
- ☐ 216 - Integrated Pest Management Systems
- ☐ 403 - Waste Disposal, Recycling, and Reuse
- ☐ 605 - Natural Resource and Environmental Economics

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- ☑ Natural Disasters (drought, weather extremes, etc.)
- ☑ Economy
- ☑ Appropriations changes
- ☐ Public Policy changes
- ☑ Government Regulations
- ☐ Competing Public priorities
- ☑ Competing Programmatic Challenges
- ☐ Populations changes (immigration, new cultural groupings, etc.)
- ☐ Other

Description

Legislative changes in logging statutes or regulations could impact program specifics. Currently all Kentucky Master Logger partners including the Kentucky Division of Forestry and the Kentucky Forest Industry Association are solidly behind the program and the Kentucky Legislature has recently approved recommended changes to the program.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- ☑ After Only (post program)
- ☑ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☑ During (during program)
- ☐ Time series (multiple points before and after program)
- ☐ Case Study
- ☐ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Master gardener program and master logger participant numbers will be captured. Master gardener contributions to extension's educational effort will be determined. Master logger impact on reducing negative impacts on the environment will be assessed and reported.

2. Data Collection Methods

- ☑ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☑ Mail
- ☐ Telephone
- ☑ On-Site

Interview

- ☐ Structured
- ☑ Unstructured

☐ Case Study
☑ Observation
☐ Portfolio Reviews
☐ Tests
☐ Journals
☐ Other

Description

Data will consist of enrollment information as well as practice changes by master logger program participants and their clientele. Master logger assessment is ongoing as participants report application of practices learned.

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Food Safety

2. Brief summary about Planned Program

Reduce the extent of food -borne illnesses due to contamination of food. Tackle the problem at the levels of production, processing and consumption. Reduce risks from natural and manufactured toxins in food.

3. Program existence :

- ○ New (One year or less)
- ○ Intermediate (One to five years)
- ◉ Mature (More than five years)

4. Program duration :

- ○ Short-Term(One year or less)
- ○ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ○ No

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

- ◉ Yes
- ○ No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	1%	0%	0%	0%
501	New and Improved Food Processing Technologies	0%	0%	40%	0%
601	Economics of Agricultural Production and Farm Management	4%	0%	0%	0%
703	Nutrition Education and Behavior	38%	0%	0%	0%
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	0%	0%	20%	0%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	0%	0%	40%	0%
724	Healthy Lifestyle	57%	0%	0%	0%
	Total	100%	0%	100%	0%

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

1. Situation and priorities

Over 50% of all food-borne illnesses can be attributed to mistakes made in food production, processing and preparation outside of the home, while 20% are traceable to customers' homes. It is estimated that 57% of all meals are consumed away from the home. This includes those consumed by the elderly and school-aged children, who are at greater risk of being susceptible to food-borne pathogens. In addition, careless food handling habits can be more common among the elderly and children, increasing the hazards of bacterial contamination. UK and KSU research and education can enhance the safety of our food supply by providing programs improving on production, processing and handling practices and by following proper food preparation and cooking practices in homes and restaurants.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Food safety issues will continue to be a problem
Kentucky will continue to address food safety issues through research and extension

A certification program for home-based and micro-processing will continue to be managed by the Kentucky Cabinet for Health Services and will require an educational program as a requirement for certification

Training programs will continue to be offered to home-based food processors, micro-processors, and restaurant personnel

Educational programs on food safety will continued to be offered to adults and children

2. Ultimate goal(s) of this Program

The adoption of safe food production, processing, preparation, handling and storage practices will result in the reduction and/or elimination of food-borne illnesses.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	12.0	0.0	2.0	0.0
2013	12.0	0.0	2.0	0.0
2014	12.0	0.0	2.0	0.0
2015	12.0	0.0	2.0	0.0
2016	12.0	1.0	2.0	1.0

V(F). Planned Program (Activity)

1. Activity for the Program

-Training and certification workshops will be conducted for home-based microprocessors

-Research will be conducted on the identification of best practices to reduce contamination of food pathogens and toxins

-Research will develop better detection methods for monitoring food risks

-Educational programs will be targeted toward parents and others who prepare food in the home

-Educational programs will be directed toward young children and teens on basic cleanliness such as hand washing

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

Extension

Direct Methods	Indirect Methods

☐ Education Class	☐ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☐ One-on-One Intervention	☐ TV Media Programs
☑ Demonstrations	☑ Web sites
☑ Other 1 (Classroom Instruction)	☑ Other 1 (Radio/TV)
☑ Other 2 (Individual Counseling)	☑ Other 2 (Social Networking)

3. Description of targeted audience

-extension agents
-food producers
-food processors
-parents
-volunteer leaders
-youth and children
-consumers

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	90000	60000	30000	20000
2013	90000	60000	30000	20000
2014	90000	60000	30000	20000
2015	90000	60000	30000	20000
2016	90000	60000	30000	20000

2. (Standard Research Target) Number of Patent Applications Submitted

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	2	0	2
2013	2	0	2
2014	2	0	2

Year	Research Target	Extension Target	Total
2015	5	0	5
2016	5	0	5

V(H). State Defined Outputs

1. Output Target

- Published research journal articles

2012:2 **2013:**2 **2014:**2 **2015:**5 **2016:**5

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of individuals who experience a change in knowledge, opinions, skills or aspirations regarding the safe production, storage, handling, or preparation of food (safe preservation techniques, hand washing, following time and temperature guidelines)
2	Number of individuals who implement recommended practices for the safe production, storage, handling or preparation of food (safe preservation techniques, hand washing, following time and temperature guidelines)

Outcome # 1

1. Outcome Target

Number of individuals who experience a change in knowledge, opinions, skills or aspirations regarding the safe production, storage, handling, or preparation of food (safe preservation techniques, hand washing, following time and temperature guidelines)

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:50000 **2013:**50000 **2014:**50000 **2015:**50000 **2016:**50000

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 501 - New and Improved Food Processing Technologies
- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☐ 703 - Nutrition Education and Behavior
- ☑ 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and
- ☑ 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally
- ☑ 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 2

1. Outcome Target

Number of individuals who implement recommended practices for the safe production, storage, handling or preparation of food (safe preservation techniques, hand washing, following time and temperature guidelines)

2. Outcome Type :

- ( ) Change in Knowledge Outcome Measure
- (●) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:35000 **2013:**35000 **2014:**35000 **2015:**35000 **2016:**35000

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 501 - New and Improved Food Processing Technologies
- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☐ 703 - Nutrition Education and Behavior
- ☑ 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and
- ☑ 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally
- ☑ 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- ☑ Natural Disasters (drought, weather extremes, etc.)
- ☑ Economy
- ☑ Appropriations changes
- ☐ Public Policy changes
- ☑ Government Regulations
- ☐ Competing Public priorities
- ☑ Competing Programmatic Challenges
- ☐ Populations changes (immigration, new cultural groupings, etc.)
- ☐ Other

Description

Receptivity of producers, handlers, and manufacturers with respect to safety guidelines. The changes in governmental restrictions. Consumers willingness to take safety precautions.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- ☑ After Only (post program)
- ☑ Retrospective (post program)
- ☑ Before-After (before and after program)

- ☑ During (during program)
- ☐ Time series (multiple points before and after program)
- ☐ Case Study
- ☐ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Evaluation will include participation numbers as well as knowledge gained and behavioral changes as a result of participation in the planned programs.

2. Data Collection Methods

- ☑ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☑ Mail
- ☐ Telephone
- ☑ On-Site

Interview

- ☐ Structured
- ☑ Unstructured

- ☐ Case Study
- ☑ Observation
- ☐ Portfolio Reviews
- ☐ Tests
- ☐ Journals
- ☐ Other

Description

Data will be collected as participation numbers, pre- and post-tests, surveys, and follow-up observation designed to determine adoption of practices associated with these programs.

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Climate Change

2. Brief summary about Planned Program

To assist agricultural producers and the general public to minimize the losses and respond to changes as a result of climate change

Create new opportunities for mitigation of greenhouse gasses emissions through improved forest, crop, pasture, and animal management.

KSU will offer a floating science lab to increase student awareness of the impact of climate change and human use on aquatic systems.

3. Program existence :

- ○ New (One year or less)
- ○ Intermediate (One to five years)
- ◉ Mature (More than five years)

4. Program duration :

- ○ Short-Term(One year or less)
- ○ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ○ No

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

- ◉ Yes
- ○ No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
121	Management of Range Resources	0%	0%	30%	0%
123	Management and Sustainability of Forest Resources	0%	0%	30%	0%
132	Weather and Climate	50%	0%	0%	0%
141	Air Resource Protection and Management	0%	0%	20%	0%
403	Waste Disposal, Recycling, and Reuse	20%	0%	20%	0%
601	Economics of Agricultural Production and Farm Management	10%	0%	0%	0%
604	Marketing and Distribution Practices	20%	0%	0%	0%
	Total	100%	0%	100%	0%

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

1. Situation and priorities

Changing climatic conditions affect day-to-day decisions made by agricultural producers such as when to spray and when to cut hay. New pest s and diseases may emerge as climate patterns change, presenting new challenges to producers. Furthermore, changes in the climate in other parts of the world affect the supply of commodities and commodity prices. Marketing strategies can reduce the impact of such changes. In addition, the general public is impacted as well when catastrophic events such as tornados and droughts occur. For both agricultural producers and the general public, through planning and preparation, individuals can reduce the impact of such events.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Climatic conditions will continue to change.
Risk can be reduced through planning and preparedness.
New markets may emerge to make conservation practices more attractive.
Agricultural producers will make economic decisions that maximize their returns.
Individuals will need to be educated as to how to prepare for disasters.
The continued monitoring of climatic changes will be useful and necessary.

Notices of anticipated climatic changes will be critical to adequate preparation.

2. Ultimate goal(s) of this Program

Reduce the level of risk of agricutural producers

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	3.0	0.0	1.0	0.0
2013	3.0	0.0	1.0	0.0
2014	3.0	0.0	1.0	0.0
2015	3.0	0.0	1.0	0.0
2016	3.0	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

-Emergency preparedness plans will be implemented with be prepared for all Extension offices
- The Agricultural Weather Center will supply information on temperature and moisture conditions to guide agricultural operations
-Economists will conduct educational programs for Extension agents and agricultural producers on ways to reduce risks
-Research on the impact of climate change on the ecology of plant pests and diseases
-Creation of new technologies and best management practices for mitigating greenhouse gas emissions and managing production systems in a changing climate
-KSU will offer a floating science lab to show students the impact of climate and human use on aquatic systems.

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

Extension

Direct Methods	Indirect Methods

☐ Education Class	☐ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☐ One-on-One Intervention	☐ TV Media Programs
☐ Demonstrations	☑ Web sites
☑ Other 1 (Classroom Instruction)	☑ Other 1 (Radio/TV)
☑ Other 2 (Individual Counseling)	☑ Other 2 (Social Networking)

3. Description of targeted audience

-extension agents
-extension office staff
-agricultural producers
-community leaders
-general public

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	30000	20000	30000	20000
2013	30000	20000	30000	20000
2014	30000	20000	30000	20000
2015	30000	20000	30000	20000
2016	30000	20000	30000	20000

2. (Standard Research Target) Number of Patent Applications Submitted

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	5	0	5
2013	5	0	5
2014	5	0	5
2015	5	0	5

Year	Research Target	Extension Target	Total
2016	5	0	5

V(H). State Defined Outputs

1. Output Target

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of producers utilizing new marketing opportunities
2	Number of incidences of when accurate weather information assisted producers in avoiding crop and livestock damage or loss

Outcome # 1

1. Outcome Target

Number of producers utilizing new marketing opportunities

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:7000 **2013:**7000 **2014:**7000 **2015:**7000 **2016:**7000

3. Associated Knowledge Area(s)

- ☐ 121 - Management of Range Resources
- ☐ 123 - Management and Sustainability of Forest Resources
- ☐ 132 - Weather and Climate
- ☐ 141 - Air Resource Protection and Management
- ☐ 403 - Waste Disposal, Recycling, and Reuse
- ☑ 601 - Economics of Agricultural Production and Farm Management
- ☑ 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☐ 1890 Extension
- ☐ 1890 Research

Outcome # 2

1. Outcome Target

Number of incidences of when accurate weather information assisted producers in avoiding crop and livestock damage or loss

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**5

3. Associated Knowledge Area(s)

- ☐ 121 - Management of Range Resources
- ☐ 123 - Management and Sustainability of Forest Resources
- ☑ 132 - Weather and Climate
- ☐ 141 - Air Resource Protection and Management
- ☐ 403 - Waste Disposal, Recycling, and Reuse
- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☐ 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☐ 1890 Extension
- ☐ 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- ☑ Natural Disasters (drought, weather extremes, etc.)
- ☑ Economy
- ☑ Appropriations changes
- ☐ Public Policy changes
- ☑ Government Regulations
- ☐ Competing Public priorities
- ☑ Competing Programmatic Challenges
- ☐ Populations changes (immigration, new cultural groupings, etc.)
- ☐ Other

Description

Willingness of agricultural producers to change their behavior to manage their risk. Ability of producers to respond to factors such as global weather situations and economic conditions that are outside of the control of producers.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- ☑ After Only (post program)
- ☐ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☐ During (during program)

- ☐ Time series (multiple points before and after program)
- ☑ Case Study
- ☐ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Evaluation will include participant numbers as well as knowledge gained and behavioral changes associated with their participation in the planned programs.

2. Data Collection Methods

- ☑ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☐ Mail
- ☐ Telephone
- ☐ On-Site

Interview

- ☐ Structured
- ☑ Unstructured

- ☐ Case Study
- ☑ Observation
- ☐ Portfolio Reviews
- ☐ Tests
- ☐ Journals
- ☐ Other

Description

Data will be collected as participation numbers, pre- and post-tests, surveys, and follow-up observation designed to determine adoption of practices associated with these programs.

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Sustainable Energy

2. Brief summary about Planned Program

To explore the feasibilty of producing biomass plant material in Kentucky as a fuel to be used in combination with coal in electric generation plants.

KSU will conduct projects for small-sacle on-farm energy production.

3. Program existence :

- ○ New (One year or less)
- ◉ Intermediate (One to five years)
- ○ Mature (More than five years)

4. Program duration :

- ○ Short-Term(One year or less)
- ○ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ○ No

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

- ◉ Yes
- ○ No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
204	Plant Product Quality and Utility (Preharvest)	0%	0%	25%	0%
206	Basic Plant Biology	0%	0%	35%	0%
402	Engineering Systems and Equipment	35%	0%	0%	0%
511	New and Improved Non-Food Products and Processes	0%	0%	35%	0%
512	Quality Maintenance in Storing and Marketing Non-Food Products	0%	0%	5%	0%
723	Hazards to Human Health and Safety	65%	0%	0%	0%
	Total	100%	0%	100%	0%

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

1. Situation and priorities

In order to reduce the nation's dependence on imported oil and to reduce our use of nonrenewable natural resources, we need to explore ways to produce energy from renewable sources. Kentucky has established a goal of having 25% of the state's energy produced from renewable resources by the year 2025. Another part of the answer is to reduce energy usage through improved agricultural production methods, the utilization of green building methods, the purchase of energy star appliances, and other conservation measures.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Energy usage will continue to increase
The price of petroleum fuels will continue to increase
Pollution will continue to be an issue in coal-fueled electric generation plants
Biomass will show promise as a fuel and in the conversion to ethanol

2. Ultimate goal(s) of this Program

The production of switchgrass will prove to be feasible in Kentucky.
That switchgrass will be demonstrated to be a useful source of fuel in combination with coal in

electric generation plants.

That the process of converting switchgrass to ethanol will be mastered and that ethanol will be a cost effective alternative

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	5.4	0.0	5.0	0.0
2013	5.4	0.0	5.0	0.0
2014	5.4	0.0	5.0	0.0
2015	5.4	0.0	5.0	0.0
2016	5.4	0.0	5.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

The pilot project in the production of switchgrass will continue with an expansion of the acres produced. Growing conditions will be observed to determine the tolerances of this warm season grass. Work will continue with the electric company to determine the best form and blend to be used with coal. Research on the conversion of switchgrass to ethanol will continue.

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

Extension

Direct Methods	Indirect Methods
☑ Education Class	☐ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☐ One-on-One Intervention	☐ TV Media Programs
☑ Demonstrations	☑ Web sites
☐ Other 1	☐ Other 1
☐ Other 2	☐ Other 2

3. Description of targeted audience

-producers
-extension agents
-electric company representatives
-other researchers and extension specialists

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	50000	22000	8000	3000
2013	50000	22000	8000	3000
2014	50000	22000	8000	3000
2015	50000	22000	8000	3000
2016	50000	22000	8000	3000

2. (Standard Research Target) Number of Patent Applications Submitted

2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	10	0	10
2013	10	0	10
2014	10	0	10
2015	10	0	10
2016	10	0	10

V(H). State Defined Outputs

1. Output Target

V(I). State Defined Outcome

O. No	Outcome Name
1	The number of individuals who will become knowledgeable in the production of switchgrass as a biofuel

Outcome # 1

1. Outcome Target

The number of individuals who will become knowledgeable in the production of switchgrass as a biofuel

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:25 **2013:**25 **2014:**25 **2015:**25 **2016:**25

3. Associated Knowledge Area(s)

- ☐ 204 - Plant Product Quality and Utility (Preharvest)
- ☐ 206 - Basic Plant Biology
- ☑ 402 - Engineering Systems and Equipment
- ☐ 511 - New and Improved Non-Food Products and Processes
- ☐ 512 - Quality Maintenance in Storing and Marketing Non-Food Products
- ☐ 723 - Hazards to Human Health and Safety

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☑ 1862 Research
- ☐ 1890 Extension
- ☐ 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- ☑ Natural Disasters (drought, weather extremes, etc.)
- ☑ Economy
- ☑ Appropriations changes
- ☐ Public Policy changes
- ☑ Government Regulations
- ☐ Competing Public priorities
- ☑ Competing Programmatic Challenges
- ☐ Populations changes (immigration, new cultural groupings, etc.)
- ☐ Other

Description

The cost effectiveness of alternative energy sources. Ability to solve issues associated with production of biofuel sources. Willingness of producers to try new enterprizes.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- ☑ After Only (post program)
- ☐ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☐ During (during program)
- ☐ Time series (multiple points before and after program)
- ☑ Case Study
- ☑ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Evaluation will include participation numbers as well as knowledge gained and behavioral changes associated with their participation in the planned programs.

2. Data Collection Methods

- ☑ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☑ Mail
- ☑ Telephone
- ☑ On-Site

Interview

- ☐ Structured
- ☑ Unstructured

- ☐ Case Study
- ☑ Observation
- ☐ Portfolio Reviews
- ☐ Tests
- ☐ Journals
- ☐ Other

Description

Data will be collected as participation numbers, pre- and post-tests, surveys and follow-up observation designed to determine adoption of practices associated with these programs.

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Childhood Obesity

2. Brief summary about Planned Program

To conduct educational programs that will focus on reduce the level of childhood obesity through proper diet and increased physical activity

3. Program existence :

- ○ New (One year or less)
- ○ Intermediate (One to five years)
- ◉ Mature (More than five years)

4. Program duration :

- ○ Short-Term(One year or less)
- ○ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ○ No

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

- ◉ Yes
- ○ No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
609	Economic Theory and Methods	0%	0%	25%	0%
703	Nutrition Education and Behavior	20%	0%	75%	0%
724	Healthy Lifestyle	80%	0%	0%	0%
	Total	100%	0%	100%	0%

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

1. Situation and priorities

It is estimated that one in three children is overweight and 17% are dangerously obese. One fourth of kids aged 5 to 10 years old already have high blood pressure and elevated cholesterol levels. Kentucky

ranks as one of the highest states in the nation in the percent of obese adults and children. Therefore research is being conducted in order to better understand the relationship between food consumption, physical activity and obesity. UK and KSU will offer educational programs and activities to promote healthy food choices for children and their care givers.

2. Scope of the Program

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

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

1. Assumptions made for the Program

To a great extent, being overweight or obese can is related to eating habits and the level of physical activity

Individuals do not fully understand the relationship of diet, physical activity and weight gain

Behavioral change is possible through education

Research can help us understand how food consumption and physical activity are specifically related to obesity in children

2. Ultimate goal(s) of this Program

To get children to understand the relations ship between food consumption, physical activity and obesity

To reduce the incidence of obesity among children

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	30.0	0.0	0.5	0.0
2013	30.0	0.0	0.5	0.0
2014	30.0	0.0	0.5	0.0
2015	30.0	0.0	0.5	0.0
2016	30.0	1.0	0.5	1.0

V(F). Planned Program (Activity)

1. Activity for the Program

-conducting educational programs for children

-training extension agents
-developing educational materials
-conducting programs with parents
-conducting research to understand the relationship

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

Extension

Direct Methods	Indirect Methods
☑ Education Class	☐ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☐ One-on-One Intervention	☑ TV Media Programs
☐ Demonstrations	☑ Web sites
☐ Other 1	☐ Other 1
☐ Other 2	☐ Other 2

3. Description of targeted audience

-children
-youth
-extension agents
-teachers
-parents

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	150000	30000	200000	50000
2013	150000	30000	200000	50000
2014	150000	30000	200000	50000
2015	150000	30000	200000	50000
2016	150000	30000	200000	50000

2. (Standard Research Target) Number of Patent Applications Submitted

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	2	0	2
2013	2	0	2
2014	2	0	2
2015	2	0	2
2016	2	0	2

V(H). State Defined Outputs

1. Output Target

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of children who experience a change in knowledge, opinion, skills, or aspirations regarding lifestyle changes (diet, exercise, etc.) that improve personal health.
2	Number of pre-school children reporting making lifestyle changes for the purpose of improving their health.
3	Number of elementary aged children reporting making lifestyle changes for the purpose of improving their health.

Outcome # 1

1. Outcome Target

Number of children who experience a change in knowledge, opinion, skills, or aspirations regarding lifestyle changes (diet, exercise, etc.) that improve personal health.

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:50000 **2013:**50000 **2014:**50000 **2015:**50000 **2016:**50000

3. Associated Knowledge Area(s)

- ☐ 609 - Economic Theory and Methods
- ☑ 703 - Nutrition Education and Behavior
- ☑ 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 2

1. Outcome Target

Number of pre-school children reporting making lifestyle changes for the purpose of improving their health.

2. Outcome Type :

- ( ) Change in Knowledge Outcome Measure
- (●) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:40000 **2013:**40000 **2014:**40000 **2015:**40000 **2016:**40000

3. Associated Knowledge Area(s)

- ☐ 609 - Economic Theory and Methods
- ☑ 703 - Nutrition Education and Behavior
- ☑ 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 3

1. Outcome Target

Number of elementary aged children reporting making lifestyle changes for the purpose of improving their health.

2. Outcome Type :

- ◉ Change in Knowledge Outcome Measure
- ◯ Change in Action Outcome Measure
- ◯ Change in Condition Outcome Measure

2012:30000 **2013:**30000 **2014:**30000 **2015:**30000 **2016:**30000

3. Associated Knowledge Area(s)

- ☐ 609 - Economic Theory and Methods
- ☑ 703 - Nutrition Education and Behavior
- ☑ 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- ☑ 1862 Extension
- ☐ 1862 Research
- ☑ 1890 Extension
- ☐ 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- ☑ Natural Disasters (drought, weather extremes, etc.)
- ☑ Economy
- ☑ Appropriations changes
- ☐ Public Policy changes

- ☑ Government Regulations
- ☐ Competing Public priorities
- ☑ Competing Programmatic Challenges
- ☐ Populations changes (immigration, new cultural groupings, etc.)
- ☐ Other

Description

Willingness of parents and children to change their lifestyles. Cooperation of school system to change practices in order to increase the level of physical activity and the types of foods offered. The perception of the public with respect to what constitutes a healty diet and body weight.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- ☑ After Only (post program)
- ☐ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☐ During (during program)
- ☐ Time series (multiple points before and after program)
- ☑ Case Study
- ☑ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Evaluation will include participation numbers as well as knowledge gained and practice changes associated with their participation in the planned programs.

2. Data Collection Methods

- ☑ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☑ Mail
- ☑ Telephone
- ☑ On-Site

Interview

- ☐ Structured
- ☑ Unstructured

- ☐ Case Study

- ☑ Observation
- ☐ Portfolio Reviews
- ☐ Tests
- ☐ Journals
- ☐ Other

Description

Data will be collected as participant numbers, pre- and post-tests, surveys, and follow-up observation designed to determine adoption of practices associated with these programs.