

2009 Kentucky State University and University of Kentucky Combined Research and Extension Plan of Work

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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, 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 moves 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 85,000 farms in the state, which places Kentucky in the top five states for number of farms, average 162 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 preparation, handling and storage of food targeted for 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 them, 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. 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.

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:

Financial Management – 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.

Workforce Preparation – While urban areas of Kentucky currently have low unemployment rates, 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.

Community Service – 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.

Science - 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
2009	470.0	35.0	59.6	35.8
2010	470.0	36.0	59.6	36.8
2011	470.0	37.0	59.6	37.8
2012	470.0	38.0	59.6	38.8
2013	470.0	38.0	59.6	39.8

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
- 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. Twenty-seven 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.

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.

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). 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 interim 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 2008 fiscal year, at the beginning of Kentucky's county-level new Four Year Plan of Work process, 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 10,790 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 English-as-a-second-language audiences, increasing efforts to reach middle school teens in 4-H by modifying delivery methods to include on-line formats, chatrooms, MySpace and FaceBook, promotion of the arts in rural Kentucky, the Small Farm Program for small, disadvantaged and beginning farmers, and Living on a Few Acres for small and part-time farm owners.

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

The second generation of statewide featured programs and new 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.

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

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

- Targeted invitation to non-traditional stakeholder groups
- Use of media to announce public meetings and listening sessions
- Survey of traditional stakeholder groups
- Targeted invitation to traditional stakeholder groups
- Survey specifically with non-traditional groups
- Other (Training stakeholders in expectations relative to program needs)
- Survey of traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals

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 community 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 brought to the regional issues committee and programming committees. These regional committees are composed of county agents representing the high priority county issues, state extension specialists from the University of Kentucky and Kentucky State University, department chairs and regional issues and program coordinators. This has been done 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. Regional Program Coordinators are now teamed up with the Assistant Directors for program areas where they work to make training and resources available to agents.

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 External Focus Groups
- Use Internal Focus Groups
- Use Surveys
- Use Advisory Committees
- Open Listening Sessions

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

- Survey of traditional Stakeholder groups
- Survey of the general public
- Other (Serving on advisory groups/councils for organizations)
- Survey of traditional Stakeholder individuals
- Meeting with traditional Stakeholder individuals
- Meeting with invited selected individuals from the general public
- Meeting with traditional Stakeholder groups
- Meeting specifically with non-traditional individuals

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.

3. A statement of how the input will be considered

- In the Budget Process
- To Identify Emerging Issues
- To Set Priorities
- Redirect Extension Programs
- In the Staff Hiring Process
- Redirect Research Programs
- In the Action Plans

Brief explanation.

Stakeholder input is utilized across the board from 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	Competitive Agriculture
6	Agricultural and Environmental Quality

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, 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 assess 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.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
801	Individual and Family Resource Management	20%	37%	50%	33%
802	Human Development and Family Well-Being	30%	0%	50%	33%
803	Sociological and Technological Change Affecting Individuals, Families and Communities	0%	38%	0%	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 \$33,672, below the U.S. median of \$41,994. 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

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
2009	98.0	16.0	0.3	0.0
2010	98.0	16.0	0.3	0.0
2011	98.0	16.0	0.3	0.0
2012	98.0	16.0	0.3	0.0
2013	98.0	16.0	0.3	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Through extension specialists and agents, 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,
- Entrepreneurial Camp for High School Students.

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

Extension	
Direct Methods	Indirect Methods
<ul style="list-style-type: none"> ● Workshop ● Group Discussion ● One-on-One Intervention ● Education Class 	<ul style="list-style-type: none"> ● Newsletters ● Web sites

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

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	150000	200000	1100000	0
2010	150000	200000	1100000	0
2011	150000	200000	1100000	0
2012	150000	200000	1100000	0
2013	150000	200000	1100000	0

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

Expected Patent Applications

2009 :0 2010 :0 2011 :0 2012 :0 2013 :0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	3	0	0
2010	3	0	0
2011	3	0	0
2012	3	0	0
2013	0	0	0

V(H). State Defined Outputs

1. Output Target

- Published research journal articles

2009 3 2010 3 2011 3 2012 3 2013 3

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 aspirations related to parenting or personal relationships.

Outcome #1

1. Outcome Target

Number of individuals demonstrating informed and effective decision making.

2. Outcome Type : Change in Action Outcome Measure

2009 :75000 **2010** : 75000 **2011** : 75000 **2012** 75000 **2013** :75000

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 806 - Youth Development

Outcome #2

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2009 :195000 **2010** : 195000 **2011** : 195000 **2012** :195000 **2013** :195000

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 806 - Youth Development

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

2009 :5000 **2010** : 5000 **2011** : 5000 **2012** 5000 **2013** :5000

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #4

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2009 :85000 **2010** : 85000 **2011** : 85000 **2012** 85000 **2013** :85000

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 806 - Youth Development

Outcome #5

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2009 :18000 **2010 :** 18000 **2011 :** 18000 **2012 :**18000 **2013 :**18000

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 806 - Youth Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Government Regulations
- Public Policy changes
- Appropriations changes

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

- During (during program)
- Retrospective (post program)

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
- Tests
- Mail
- Telephone
- On-Site
- Observation

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 extension 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.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	20%	0%	50%	0%
803	Sociological and Technological Change Affecting Individuals, Families and Communities	50%	0%	50%	0%
903	Communication, Education, and Information Delivery	30%	0%	0%	0%
Total		100%	0%	100%	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 2005, extension agents reported 16 percent of their 6.4 million contacts were related to leadership development, and agents reporting working with 2,420 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 20,000 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 nearly 220,000 youth.

2. Scope of the Program

- In-State Extension
- Integrated Research and Extension
- Multistate 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 Commonwealth 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
2009	77.0	0.0	1.0	0.0
2010	77.0	0.0	1.0	0.0
2011	77.0	0.0	1.0	0.0
2012	77.0	0.0	1.0	0.0
2013	77.0	0.0	1.0	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
<ul style="list-style-type: none"> ● Education Class ● Group Discussion ● Workshop ● One-on-One Intervention 	<ul style="list-style-type: none"> ● Web sites ● Newsletters

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

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	500000	150000	264000	0
2010	500000	150000	264000	0
2011	500000	150000	264000	0
2012	500000	150000	264000	0
2013	500000	150000	264000	0

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

Expected Patent Applications

2009 :0 2010 :0 2011 :0 2012 :0 2013 :0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	3	0	0
2010	3	0	0
2011	3	0	0
2012	3	0	0
2013	3	0	0

V(H). State Defined Outputs

1. Output Target

- Published research journal articles

2009 3 2010 3 2011 3 2012 3 2013 3

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

2009 :38000 **2010** : 38000 **2011** : 38000 **2012** 38000 **2013** :38000

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

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

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

2009 :53000 **2010** : 53000 **2011** : 53000 **2012** 53000 **2013** :53000

3. Associated Institute Type(s)

- 1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #3

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2009 :20000 **2010** : 20000 **2011** : 20000 **2012** 20000 **2013** :20000

3. Associated Institute Type(s)

- 1862 Extension

4. Associated Knowledge Area(s)

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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Competing Programmatic Challenges
- Competing Public priorities

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

- Before-After (before and after program)
- Case Study
- After Only (post program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

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
- Observation
- Telephone
- Mail
- Unstructured
- On-Site

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.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	0%	0%	10%	0%
502	New and Improved Food Products	0%	0%	10%	0%
503	Quality Maintenance in Storing and Marketing Food Products	0%	0%	10%	0%
504	Home and Commercial Food Service	5%	0%	0%	0%
702	Requirements and Function of Nutrients and Other Food Components	5%	0%	10%	63%
703	Nutrition Education and Behavior	50%	50%	10%	25%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	5%	0%	10%	0%
721	Insects and Other Pests Affecting Humans	0%	0%	10%	0%
722	Zoonotic Diseases and Parasites Affecting Humans	0%	0%	10%	0%
723	Hazards to Human Health and Safety	5%	0%	10%	12%
724	Healthy Lifestyle	30%	50%	0%	0%
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	0%	0%	10%	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.

Over 50 percent of all foodborne illnesses can be attributed to mistakes made in food-service establishments and restaurants, while 20 percent are traceable to consumers in their homes. The National Restaurant Association estimates that up to 57 percent of all meals may be consumed away from home. This includes those consumed by the elderly and school-age children, who are at greater risk of being susceptible to foodborne pathogens. In addition, careless food-handling habits may be more common among the elderly and children, increasing the hazards of pathogenic bacteria. Research and training can enhance the safety of our food supply by improving production and processing practices in established businesses and the growing home-based and microprocessing food industry.

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 contaminants. 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.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Kentucky continues to be engaged in nutritional research including:

- benefits of zinc in diets of people who over-consume calories, especially fat. Research suggests sufficient 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
- safer food-handling and preservation methods and techniques
- 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
2009	100.0	2.0	1.0	11.0
2010	100.0	2.0	1.0	11.0
2011	100.0	2.0	1.0	11.0
2012	100.0	2.0	1.0	11.0
2013	100.0	2.0	0.0	11.0

V(F). Planned Program (Activity)

1. Activity for the Program

•Contacts with clientele related to diet, health and food safety 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
<ul style="list-style-type: none"> ● Education Class ● Group Discussion ● Workshop 	<ul style="list-style-type: none"> ● Newsletters ● Web sites

3. Description of targeted audience

•Extension agents •Community agencies •Volunteer leaders •Parents •Grandparents •General public •Public housing residents •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 methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	800000	75000	100000	0
2010	800000	75000	100000	0
2011	800000	75000	120000	0
2012	800000	75000	100000	0
2013	800000	75000	100000	0

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

Expected Patent Applications

2009 :0 2010 :0 2011 :0 2012 :0 2013 :0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	10	0	0
2010	10	0	0
2011	10	0	0
2012	10	0	0
2013	10	0	0

V(H). State Defined Outputs

1. Output Target

- Published research journal articles

2009 :10 2010 :10 2011 :10 2012 :10 2013 :10

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.).
5	Number of individuals indicating they gained knowledge related to safe food storage, handling, and preparation.

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

2009 85000 **2010** : 85000 **2011** : 85000 **2012** 85000 **2013** :85000

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #2**1. Outcome Target**

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

2. Outcome Type : Change in Action Outcome Measure

2009 40000 **2010** : 40000 **2011** : 40000 **2012** 40000 **2013** :40000

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

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 Action Outcome Measure

2009 26000 **2010** : 26000 **2011** : 26000 **2012** 26000 **2013** :26000

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans
- 724 - Healthy Lifestyle

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 Action Outcome Measure

2009 26000 **2010** :26000 **2011** :26000 **2012** 26000 **2013** :26000

3. Associated Institute Type(s)

- 1862 Extension

4. Associated Knowledge Area(s)

- 723 - Hazards to Human Health and Safety
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #5

1. Outcome Target

Number of individuals indicating they gained knowledge related to safe food storage, handling, and preparation.

2. Outcome Type : Change in Knowledge Outcome Measure

2009 25000 **2010** :25000 **2011** :25000 **2012** 25000 **2013** :25000

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 503 - Quality Maintenance in Storing and Marketing Food Products
- 504 - Home and Commercial Food Service
- 702 - Requirements and Function of Nutrients and Other Food Components
- 703 - Nutrition Education and Behavior
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
- 723 - Hazards to Human Health and Safety

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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)
- Before-After (before and after program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- During (during program)

Description

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

2. Data Collection Methods

- Observation
- Sampling

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.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
131	Alternative Uses of Land	0%	0%	0%	10%
601	Economics of Agricultural Production and Farm Management	10%	0%	15%	30%
602	Business Management, Finance, and Taxation	0%	0%	10%	0%
604	Marketing and Distribution Practices	10%	0%	15%	30%
606	International Trade and Development	0%	0%	15%	0%
607	Consumer Economics	0%	0%	15%	0%
608	Community Resource Planning and Development	80%	67%	15%	30%
610	Domestic Policy Analysis	0%	0%	15%	0%
805	Community Institutions, Health, and Social Services	0%	33%	0%	0%
	Total	100%	100%	100%	100%

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

1. Situation and priorities

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 facilitating 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. For the second time in the past five years, Kentucky's unemployment rate has hovered in the range of 6-6.5 percent (the U.S. unemployment rate is currently 4.7%). 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.

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 Extension
- Integrated Research and Extension
- Multistate Research

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 associated with the state's "Unbridled Spirit" campaign 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 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
2009	25.0	2.5	3.7	2.8
2010	25.0	2.5	3.7	3.8
2011	25.0	2.5	3.7	4.8
2012	25.0	2.5	3.7	4.0
2013	25.0	2.5	3.7	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 nontraditional 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.

KSU has research projects are focusing on:

- Aquaculture and livestock integrated into a farm analysis for limited resource farmers.
- 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
<ul style="list-style-type: none"> • Education Class • Group Discussion • Workshop 	<ul style="list-style-type: none"> • Newsletters • Web sites

3. Description of targeted audience

•county extension agents •Kentucky crop, livestock, produce producers •entrepreneurs •agritourism providers
 •active and potential community leaders •4-H members

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	275500	75000	14500	0
2010	275500	75000	14500	0
2011	275500	75000	14500	0
2012	275500	75000	14500	0
2013	275000	75000	0	0

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

Expected Patent Applications

2009 :0 2010 :0 2011 :0 2012 :0 2013 :0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	20	0	0
2010	20	0	0
2011	20	0	0
2012	20	0	0
2013	20	0	0

V(H). State Defined Outputs

1. Output Target

- Published research journal articles

2009 20

2010 20

2011 20

2012 20

2013 20

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 Action Outcome Measure

2009 20000 **2010** : 20000 **2011** : 20000 **2012** 20000 **2013** :20000

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 604 - Marketing and Distribution Practices
- 608 - Community Resource Planning and Development

Outcome #2

1. Outcome Target

Number of ongoing coalitions with which extension is actively involved.

2. Outcome Type : Change in Knowledge Outcome Measure

2009 2100 **2010** : 2100 **2011** : 2100 **2012** 2100 **2013** :2100

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 606 - International Trade and Development
- 607 - Consumer Economics
- 608 - Community Resource Planning and Development

Outcome #3

1. Outcome Target

Number of people who are ready to enter the workforce.

2. Outcome Type : Change in Action Outcome Measure

2009 5000 **2010** : 5000 **2011** : 5000 **2012** 5000 **2013** :5000

3. Associated Institute Type(s)

- 1862 Extension

4. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

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**2009** :30000**2010** :30000**2011** :30000**2012** 30000**2013** :30000**3. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 608 - Community Resource Planning and Development

V(J). Planned Program (External Factors)**1. External Factors which may affect Outcomes**

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

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**

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

Description

Evaluation will focus on numbers of Extension users that participate in Extension programs in addition to those who adopt or improve practices or approaches 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

- Telephone
- Sampling
- Journals
- Observation
- On-Site
- Unstructured
- Mail

Description

Evaluation will focus on participation numbers and also include pre- and post-tests, follow-up assessment and observation of adoption 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

Competitive Agriculture

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.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	5%	0%	5%	5%
201	Plant Genome, Genetics, and Genetic Mechanisms	0%	0%	5%	5%
204	Plant Product Quality and Utility (Preharvest)	5%	0%	5%	5%
205	Plant Management Systems	30%	28%	5%	5%
211	Insects, Mites, and Other Arthropods Affecting Plants	0%	0%	5%	5%
212	Pathogens and Nematodes Affecting Plants	5%	17%	5%	5%
215	Biological Control of Pests Affecting Plants	0%	0%	5%	5%
216	Integrated Pest Management Systems	0%	0%	5%	5%
301	Reproductive Performance of Animals	5%	4%	5%	5%
302	Nutrient Utilization in Animals	5%	0%	5%	5%
303	Genetic Improvement of Animals	5%	0%	5%	5%
304	Animal Genome	0%	0%	5%	5%
307	Animal Production Management Systems	25%	40%	5%	5%
308	Improved Animal Products (Before Harvest)	5%	0%	5%	5%
311	Animal Diseases	0%	8%	5%	5%

401	Structures, Facilities, and General Purpose Farm Supplies	5%	0%	5%	5%
402	Engineering Systems and Equipment	0%	0%	5%	5%
403	Waste Disposal, Recycling, and Reuse	0%	0%	5%	5%
601	Economics of Agricultural Production and Farm Management	0%	0%	5%	5%
604	Marketing and Distribution Practices	5%	3%	5%	5%
Total		100%	100%	100%	100%

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

1. Situation and priorities

The approximate 85,000 farms in Kentucky average 162 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, increasing by \$8 million. Once the lump sum buyout checks are received, some tobacco-dependent regions of Central and Eastern Kentucky may face the prospects of significant declines in net farm income beyond 2005/06 as many producers have few alternatives for offsetting the decline in tobacco income.

Ongoing discovery research supporting competitive 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

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

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

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
2009	145.0	14.5	45.3	13.5
2010	145.0	14.5	45.3	13.5
2011	145.0	14.5	45.3	13.5
2012	145.0	14.5	45.3	13.5
2013	145.0	14.5	45.3	13.5

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 Kentucky State University 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 improve producer skills in these areas •New Research findings from Kentucky State University's Aquaculture Research center will be the subject of field days and meetings to bolster the expanding aquaculture industry in Kentucky and the Southern Region •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
<ul style="list-style-type: none"> ● Group Discussion ● Education Class ● Demonstrations ● Workshop 	<ul style="list-style-type: none"> ● Web sites ● Newsletters

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 methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	1270000	400000	39300	0
2010	1270000	400000	39300	0
2011	1270000	400000	39300	0
2012	1270000	400000	39300	0
2013	1270000	400000	39300	0

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

Expected Patent Applications

2009 :6 2010 :6 2011 :6 2012 :6 2013 :6

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	164	20	0
2010	164	20	0
2011	164	20	0
2012	164	20	0
2013	164	20	0

V(H). State Defined Outputs

1. Output Target

- Graduate research assistants engaged in research

2009 :25 **2010** :25 **2011** :25 **2012** :25 **2013** :25

- Published research journal articles

2009 :150 **2010** :150 **2011** :150 **2012** :150 **2013** :150

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 Action Outcome Measure

2009 :19000 **2010** : 19000 **2011** : 19000 **2012** :19000 **2013** :19000

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 215 - Biological Control of Pests Affecting Plants
- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 307 - Animal Production Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 604 - Marketing and Distribution Practices

Outcome #2

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2009 24000000 **2010** : 24000000 **2011** : 24000000 **2012** 24000000 **2013** :24000000

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 205 - Plant Management Systems
- 216 - Integrated Pest Management Systems
- 307 - Animal Production Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 604 - Marketing and Distribution Practices

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

2009 23000 **2010** :23000 **2011** :23000 **2012** 23000 **2013** :23000

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 205 - Plant Management Systems
- 307 - Animal Production Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases

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

2009 :150 **2010** :150 **2011** :150 **2012** :150 **2013** :150

3. Associated Institute Type(s)

- 1862 Extension

4. Associated Knowledge Area(s)

- 205 - Plant Management Systems
- 307 - Animal Production Management Systems

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

2009 20000 **2010** :20000 **2011** :20000 **2012** 20000 **2013** :20000

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 604 - Marketing and Distribution Practices

V(J). Planned Program (External Factors)**1. External Factors which may affect Outcomes**

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

Description

The following could affect cropping decisions beyond the scope of extension programs:

- soybean rust
- management input costs
- land prices
- changes in weather patterns

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

- During (during program)
- After Only (post program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

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

- Unstructured
- Mail
- Sampling
- Telephone
- Observation
- On-Site
- Tests

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.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	5%	0%	5%	5%
104	Protect Soil from Harmful Effects of Natural Elements	0%	0%	5%	0%
112	Watershed Protection and Management	5%	0%	5%	5%
123	Management and Sustainability of Forest Resources	15%	0%	10%	0%
124	Urban Forestry	0%	0%	5%	0%
133	Pollution Prevention and Mitigation	5%	0%	5%	5%
135	Aquatic and Terrestrial Wildlife	0%	0%	5%	0%
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%	0%	5%	5%
205	Plant Management Systems	20%	0%	5%	5%
211	Insects, Mites, and Other Arthropods Affecting Plants	0%	0%	5%	35%
212	Pathogens and Nematodes Affecting Plants	0%	0%	5%	0%
213	Weeds Affecting Plants	0%	0%	5%	25%
215	Biological Control of Pests Affecting Plants	0%	0%	10%	10%
216	Integrated Pest Management Systems	5%	0%	5%	5%
402	Engineering Systems and Equipment	0%	0%	5%	0%

403	Waste Disposal, Recycling, and Reuse	0%	0%	5%	0%
605	Natural Resource and Environmental Economics	45%	0%	5%	0%
610	Domestic Policy Analysis	0%	0%	5%	0%
	Total	100%	0%	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 (305B) 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

- Multistate Extension
- Multistate Research
- Integrated Research and Extension
- In-State Research
- In-State 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
2009	25.0	0.0	7.3	8.5
2010	25.0	0.0	7.3	8.5
2011	25.0	0.0	7.3	8.5
2012	25.0	0.0	7.3	8.5
2013	25.0	0.0	8.3	8.5

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 pesticides 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 of 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
- policies relating to improved

environmental quality and their actual results

KSU Extension Programs will include continued efforts in expanding and supporting

- Gardendata.org and •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.
- 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
<ul style="list-style-type: none"> • Group Discussion • Demonstrations • Workshop • Education Class 	<ul style="list-style-type: none"> • Web sites • Newsletters

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 methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	204000	200000	68000	0
2010	204000	200000	68000	0
2011	204000	200000	68000	0
2012	204000	200000	68000	0
2013	204000	200000	68000	0

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

Expected Patent Applications

2009 :1 2010 :1 2011 :1 2012 :1 2013 :1

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	100	0	0
2010	100	0	0
2011	100	0	0
2012	100	0	0
2013	100	0	0

V(H). State Defined Outputs

1. Output Target

- Graduate student research assistants

2009 :10 2010 :10 2011 :10 2012 :10 2013 :0

- Published research journal articles

2009 :90 2010 :90 2011 :90 2012 :90 2013 :90

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 Action Outcome Measure

2009 20000 **2010** : 20000 **2011** : 20000 **2012** 20000 **2013** :20000

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 123 - Management and Sustainability of Forest Resources
- 133 - Pollution Prevention and Mitigation
- 216 - Integrated Pest Management Systems

Outcome #2

1. Outcome Target

Number of people utilizing forest management practices.

2. Outcome Type : Change in Action Outcome Measure

2009 3500 **2010** : 3500 **2011** : 3500 **2012** 3500 **2013** :3500

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources

Outcome #3

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2009 600000 **2010** : 600000 **2011** : 600000 **2012** 600000 **2013** :600000

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 123 - Management and Sustainability of Forest Resources

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 Action Outcome Measure

2009 20000

2010 :20000

2011 :20000

2012 20000

2013 :20000

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 123 - Management and Sustainability of Forest Resources

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Natural Disasters (drought,weather extremes,etc.)
- Competing Programmatic Challenges
- Appropriations changes
- Government Regulations

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

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

- Mail
- Sampling
- Unstructured
- On-Site
- Observation

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.