

2007 Kentucky State University and University of Kentucky Combined Research and Extension Annual Report

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I. Report Overview

1. Executive Summary

One of the ways you can know someone's story is to know that person's key values. The key values for Kentucky's extension and research programs are the three 'R's - not reading, 'riting and 'rithmetic, but rigor, relevance and relationships.

Our rigor comes from the research-based solutions we are delivering across Kentucky. Our researchers and scientists worked on over 145 projects this year and developed a variety of initiatives to put research discoveries on the ground and in Kentucky's communities. The projects highlighted in this report illustrate the diverse ways we make a difference in Kentucky. They cover agriculture, quality of life, and environmental stability. And like the popular commercial that shows an army of cell phone technical support, each extension educator is backed by literally hundreds of researchers and scientists who help with service, answers and programs.

We are committed to relevance by having meaningful, dynamic, and robust conversations with our stakeholders. Both extension and research have formal advisory committees as well as informal conversations which are critical to help shape, sharpen, and prioritize our programs while also providing a feedback loop to continually adjust our programs' quality. Even today, we continue to adjust the structure of the advisory committee to improve issues flow and needs identification.

Relevance implies being responsive. A late answer is almost as bad as no answer. We are using teleconferences, video conferences, e-mail, the internet, podcasting, and other technology to share research efforts and deliver information completely and efficiently.

A good recent example was the team assigned to coordinate our response to Kentucky's 2007 drought. This committee never met face to face, but was able to pull together a comprehensive and integrated educational effort, arguably one of our best ever. And it is noteworthy that our resources came from both of Kentucky's land grant universities - the University of Kentucky and Kentucky State University. Our two institutions have the common goal of providing world class service and programs in a fully cooperative way.

The final "R" is relationships. Just as our major strength is our people, our business is people. The most significant outcomes always begin with significant relationships. We have to spend the time developing relationships with our stakeholders to fulfill our goal of conducting the research and putting programs in place that make a difference in Kentuckians' lives and communities.

We stress building relationships with new faculty, agents, and staff. We reward individuals for developing strong programs and extension councils. We don't see our conversations with stakeholders and council members as a once-and-done process, but a continual and continuing commitment to strengthen the relationship between counties and campuses.

As a result of our interaction with councils and other stakeholders, the 2007 fiscal year program emphasis as defined by number of contacts is as follows:

29% Competitive Agriculture
25% Life Skill Development
21% Diet, Nutrition and Healthy Lifestyles
14% Leadership and Volunteerism
6% Social and Economic Opportunity
5% Agricultural and Environmental Quality

Joint activities between the University of Kentucky and Kentucky State University are an expectation of faculty and staff. The two institutions are barely 40 miles apart, which is convenient in terms of faculty and specialist cooperation, but in many respects the institutions are co-located. Agents and Program Assistants are co-located in county offices, sharing not only office space but also budget, supervision and facility management responsibilities. This strong and somewhat unique bond has resulted in shared program efforts, many of which are reported in this document. Efforts include programming and research in:

Grapes and Wine	Environmental Education for Youth
Goats	Gardendata.org Horticulture web site
Cattle Production	Tobacco Sector Farming Adjustments
Pawpaws	U.S. Animal Identification Program
Small Farm Programs	Organic Ag and Vegetable Programs
Aquaculture	AgrAbility
Sustainable Agriculture	Limited Resource Families
Kentucky Entrepreneurial Coaching Institute	and more...
Home Horticulture	

Kentucky State University and the University of Kentucky share adjunct faculty with at least three positions in

entomology, three positions in horticulture, three positions in animal science and one position in agricultural economics.

The details of the Kentucky Extension and Research story are in this annual report.

Total Actual Amount of professional FTEs/SYs for this State

Year:2007	Extension		Research	
	1862	1890	1862	1890
Plan	470.0	30.8	55.3	32.8
Actual	609.1	32.4	59.6	32.3

II. Merit Review Process

1. The Merit Review Process that was Employed for this year

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

2. Brief Explanation

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

The Plan of Work has been built on program goals that the Cooperative Extension Service identified through extension advisory committees, developed through logic model program committees and reviewed through regional issues committees made up of extension agents, department chairs, and specialists. The program area assistant directors selected 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 who comprise the State Extension Council representing all geographic regions of Kentucky as well as agriculture, youth, families, business, industry, and public education served as reviewers of the Plan of Work using the criteria identified above.

The University of Kentucky Agricultural Experiment Station focuses on 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 researchers around the nation and stakeholder review, are also used.

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. Stakeholder Input

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

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

Brief Explanation

The Kentucky Extension Advisory Council System 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, county level councils are to be diverse enough to represent the various constituencies within the counties including underserved and underrepresented audiences. Their purpose on the council is to express their own needs as well as to gain additional resident perspectives through traditional and non-traditional means in order to provide input into development of local extension programs. These representatives of the various audiences are not only involved in planning but also implementation and evaluation of those programs. In addition to a county extension council, each county is to have an agricultural advisory council, homemaker's council, home economics advisory council, and 4-H council. They also communicate research and resource needs to the universities. Issues of greatest importance in the greatest numbers of counties were 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. 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. of Agriculture

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

1. Method to identify individuals and groups

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

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 used a variety of methods for capturing input, including council dialogue and discussion, surveys, program evaluations, and working with other local agencies and organizations. Information from program committees was then shared with the total county extension councils. Membership on these councils includes a broad cross-section of the people in the county representing all demographic and economic segments as well as government, business, education, and community organizations in addition to those identified as under-represented and underserved audiences in extension programs. Through an analysis of 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 and outcome goals were written. In all, 10,790 people were involved in the process of establishing local program priorities. Most counties utilize a process for examining their council makeup and utilize membership committees and a rotation system to insure new blood and continued broad based support.

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

1. Methods for collecting Stakeholder Input

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

Brief Explanation

Even when Extension advisory councils appears to be broadly representative of the local population, it is possible that established program priorities fail to target important issues. Agents count heavily on their council members to identify program needs but recognize it is a mistake to think that the personal experiences of 15-40 individuals serving on the local Extension council can adequately identify the needs of the total population. Agents are trained to combat that problem by involving members of the council in conducting a 'situation analysis.'

Councils use three major sources of information useful in conducting a situation analysis. (1) The first is data that have been collected by someone else. This is typically called secondary or existing data. (2) The second is resident perspectives about issues, problems, and opportunities. (3) The third information source is current research and knowledge which may have implications for county programming.

Extension Councils began this process by making plans to collect situational data from these three sources. Council members and Extension staff together or independently pulled this information together. A second meeting of the council was held to review the data and discuss the implications of the findings. The product of this discussion was a list of program opportunities which may merit Extension's involvement.

While existing data and current research and knowledge are as close as a computer and the internet, the council delegates themselves must be diligent in capturing local resident perspectives through one of more of several methods. Agents and local leaders were trained in the following methods:

Community Forums – Community forums are public meetings in which individuals are invited to share and discuss their perspectives on issues facing the community.

Focus Group Interviews – A focus group interview is a structured discussion with a small group of eight to twelve individuals on a clearly defined topic.

Key Informant Interviews - In any community, there is a number of individuals who, because of their unique position within the community, can provide important information about local issues and needs.

Surveys – Surveys are a cost effective way of gathering data from a large number of people.

Media Scan – A systematic review of the content of news articles and editorials appearing in local newspapers and on local radio and television stations provides more information about the community.

3. A statement of how the input was considered

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

Brief Explanation

We pride ourselves on being locally driven, grassroots organizations. Information from stakeholders drives research and extension agendas including our pursuit of resources to conduct research and educational programs. In addition, stakeholder input has been utilized across the board for hiring, budget development, resource acquisition, program implementation, and evaluation. Our stakeholders have also served as tremendous advocates in communicating the successes of the organization to campus administrators as well as to outside and nontraditional groups and decision makers.

Brief Explanation of what you learned from your Stakeholders

Our stakeholders, through advisory committees, have a responsibility to identify issues as well as provide feedback on current programs and efforts. Some of the issues that were identified and/or were under discussion in FY07 include:

Obesity - questions about available resources resulted in a website being developed to include all available resources and the expansion of programs related to exercise and health including the updated Weight the Reality Series (Body Image).

Residential and Rural Landscaping - discussions among stakeholders continue regarding the status of gardendata.org, a virtual garden advisor for answers to most residential lawn and garden questions. This web resource is transitioning to the national eXtension web site. Other eXtension web resources originating from Kentucky stakeholders include DAIReXNRT and HorseQuest.

Teen Programs including Middle School - In response to Middle School Youth being identified as an underserved audience in Extension Programs, an educational package targeted toward this demographic group was distributed for the 2007 camping season and featured programs through MySpace, FaceBook, and SecondLife, all virtual communities frequented by this age group.

E-Commerce - a need to bring new markets to Kentucky producers and businesses has resulted in programs such as MarketMaker, a web based system that connects Kentucky businesses and farmers with markets and training for agents to pursue SRDC grants for e-commerce linking clientele with new financial resources.

Food Safety - Updated resources on food safety and fresh vegetables was sent to County Extension Agents as a result of concerns related to home-based processing of foods, new linkages between producers and institutional food processors, youth preparing snacks and meals while home alone, and the expanding the agritourism industry.

Farm Labor - Commodity Growers Cooperative will be funding an Extension associate position who will be addressing labor issues in Kentucky.

Financial Management - A Debt Reduction Quick Response Team has been organized to identify available and develop original curriculum based on materials developed and utilized jointly by Kentucky and Ohio in the past.

Information Flow from County to State - Extension Council members want to insure a meaningful flow of information from county program councils and county extension councils to the state level by reviewing the information flow process. Under discussion is strengthening leader involvement and input at the district level and going beyond issues identification to be more involved in identification of resources needed to conduct educational programs.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
8557329	2606687	8647443	2842438

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	9284604	2606687	5060715	2842438
Actual Matching	60341104	206555	20772852	325873
Actual All Other	0	0	0	0
Total Actual Expended	69625708	2813242	25833567	3168311

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous years				
Carryover	2831156	0	0	0

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

Program #1

V(A). Planned Program (Summary)

1. Name of the Planned Program

Life Skill Development

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
607	Consumer Economics	0%	0%	10%	0%
801	Individual and Family Resource Management	14%	37%	25%	0%
802	Human Development and Family Well-Being	86%	0%	25%	0%
803	Sociological and Technological Change Affecting Individuals, Families and Communities	0%	38%	30%	0%
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	0%	0%	10%	0%
806	Youth Development	0%	25%	0%	0%
Total		100%	100%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	98.0	2.0	0.3	0.0
Actual	118.1	16.9	0.3	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1800285	1292917	61050	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
11700140	29932	250594	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Through extension specialists and agents, CES has partnered 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 of efforts and outcomes include:

- Forty Kentucky counties reported 958 youth completing 6 or more hours of child care/ babysitting training, learning to apply research-based first aid and CPR procedures, to put babies to sleep on their backs, to avoid potential safety hazards, to clean up messes, to prepare nutritious meals, and to plan active play, quiet times, and rest. These are essential parenting life skills and entrepreneurial skills needed to earn an income using child care skills.
- Extension offered the Estate and Financial Planning for Life program in 22 Kentucky counties with 1,200 clientele participating. Over ½ of those in attendance have reported implementing a record-keeping system.
- 23 Kentucky counties participated in the Keys to Great Parenting Program offering 1,242 clientele an opportunity to improve their knowledge and skills related to child literacy, child development, and preventive and non-violent discipline. Follow-up evaluations show that 60% or more of participants are now reading books to their children, choosing age-appropriate playthings to help their children have fun and learn, and adopting new skills to communicate with their child.
- The Kentucky Master Logger Program has trained 3,536 loggers working in Kentucky representing over 2,988 small businesses employing 9,263 individuals that provide rural economies with \$895,042,950 annually through the delivery and primary processing of timber that they harvest. This year Master Loggers impacted 322,538 acres of woodlands and harvested 1.10 billion board feet of timber providing over \$179 million dollars of timber revenue to 8,937 landowners in Kentucky.
- The Small Steps to Health and Wellness Program focuses on the increasingly larger numbers of Americans having problems with their health and their finances and addresses the similarities in these two issues and provides strategies for taking small steps to improve both their health and their finances.
- Healthy Divas is a program designed to improve healthy lifestyle choices for adolescent females that are not usual participants in after-school activities due to lack of resources. Sessions covered a nutrition and/or health topic, exercise topic and a time for journaling.

Evaluations confirm gains in self-esteem levels, increased exercise time, better food choices and improved personal hygiene.

- Bluegrass Healthy Marriage Initiative seeks to improve children's well-being by affirming and supporting healthy marriages through a number of means which include education, life-skill development and reducing domestic violence.
- Extension offered the three week series on Estate and Financial Planning for Life program in 22 Kentucky counties with 1,200 clientele participating. The program focuses on estates, estate planning, attorney roles in planning, records, and record keeping systems and the purpose and value of a health directive.
- In several Kentucky counties, Extension has become a partner in Operation Military Kids (OMK). OMK is the U.S. Army's collaborative effort with America's communities to support the children and youth of National Guard and Army Reserve Soldiers impacted by the Global War on Terrorism. Extension's effort includes special activities and events for these youth in addition to providing on-site opportunities on military installations.
- Marvelous Manners and other etiquette programs focus on everyday manners, electronic etiquette, and mealtime manners. The culminating event for many is a formal sit-down meal where youth have an opportunity to practice and demonstrate their newly acquired skills.

- FCS Agents partnered with local authorities to provide little or no cost trainings to personnel from childcare centers, in-home day cares, licensed day care organizations and Family Resource Youth Service Centers. Childcare providers/organizations are provided with the most recent research-based information and save thousands in training and travel costs by attending local trainings.
- Sixty-one Kentucky counties reported 6,528 youth completing 6 or more hours of Step Up to Leadership curriculum, thus improving their knowledge and skills related to public speaking and communication, decision making, leadership and teamwork practices.
- Over 7,000 Kentucky youth attended summer 4-H camp and demonstrated considerable personal growth in life skills, including team building, making friends, keeping up with their own money and property, making healthy choices, leading group activities, improving social skills by making friends with a caring adult or teen, and treating others fairly.
- The 4-H Reality Store is designed to promote life-skill education for youth using a hands-on approach. In today's credit card society, teens seem to have less knowledge about saving, budgeting, and financial management. The Extension Service takes on the role of coordinating with the schools and recruiting, training, and organizing volunteers, businesses, financial institutions, and government agencies who participate in this program.
- The LEAP for Health Curriculum (Literacy, Eating and Activity for Preschool) uses storybooks to teach children about staying healthy, being physically active and eating more fruits and vegetables. The significance of this program has been established and a statewide evaluation of the program will be conducted in FY09.
- To assist families in learning about on-line technology Extension is offering classes on digital photography, starting a business on line, marketing thorough on-line livestock markets, MarketMaker and eBay, banking, social networking, and other ways to utilize the internet and the opportunities and intrusions it brings to our lives.
- In an effort to adequately prepare Extension agents to meet the challenges of educating grandparents as parent caregivers, resources on services, internet safety, legal issues, parenting help, and nutrition needs, information is shared on-line and through agent in-service trainings.
- The Family Development and Management (FDM) Program provides services to limited resource families throughout Kentucky, including individual and family counseling, youth health and nutrition workshops, and a life-skills curriculum. FDM has a track record of success in improving family management practices for hundreds of families in the Commonwealth, in addition to improving the eating habits of countless numbers of youth. In addition, FDM assistants have been instrumental in helping youth understand the correlation between grades, good life choices and how these choices carry over into future earning potential through such programs as Reality Store.
- The Kentucky State Youth Entrepreneurship Program offered a novel approach to teaching business, advertising, business plans and business concepts through a 7-day residential on campus Youth Entrepreneurship Camp for high school students. Campers scored the event as a success by placing it 3.3 of a 4 point scale. Pre/Post tests results indicated that youth increased test scores in all four areas of marketing, business sector, financial concepts and business law concepts.

2. Brief description of the target 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(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	150000	0	1100000	0
2007	608429	254243	1054237	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	2	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Published research journal articles

Year	Target	Actual
2007	0	0

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

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 Measures**

Number of individuals demonstrating informed and effective decision making.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75000	93649

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Most residents of this country fail to create the necessary estate plans and documents. Seventy percent of all probated estates are estates without a will, in other words intestate. In order to pass on hard earned assets and reduce taxes and expenses in settling estates, it is important for families to be aware of what is involved in estate planning, gain knowledge about the proper documents for their situation and take action to put them in place. The information is so vast, that participants cannot absorb everything in one meeting.

What has been done

During the past two years, estate planning has been a featured program for the Kentucky Cooperative Extension Service. In FY07, Extension offered the three week series on Estate and Financial Planning for Life program in 22 Kentucky counties with 1200 clientele participating. The program focuses on estates, estate planning, attorney roles in planning, records and record keeping systems and the purpose and value of a health directive.

Results

In the few months following the Estate and Financial Planning for Life program, evaluations revealed over one half of the 1200 in attendance have implemented a record keeping system to improve their knowledge of their personal financial status. Three hundred and thirty of the 1200 have moved forward with their estate planning by obtaining a will, durable power of attorney or a health directive, and 257 of the 1200 have reported increasing their net worth as a result of actions taken in financial security that were recommended in the training.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
607	Consumer Economics

Outcome #2**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	195000	221617

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many people think of 4-H as Cows and Cooking and something out of their childhood, but 4-H has been aggressive in keeping up to date and relevant in the lives of Kentucky youth. Perhaps that is why 4-H in Kentucky involves over 220,000 youth, over one quarter of youth between ages 9 and 19. 4-H Science, Engineering and Technology (SET) program is the next big priority for Kentucky 4-H.

What has been done

Counties across Kentucky are currently serving as a pilots for the Geospatial Geographic - Spatial Sciences portion of the 4-H SET program. Through this curriculum, youth have an opportunity to learn about the use of Global Position System equipment, navigational aids, standard orienteering procedures and been introduced to Geographic Information Systems and how this technology can be used in careers and everyday lives. Pilot counties are receiving equipment grant funds, curriculum and supply grant funds. A partnership has been established with the University of Kentucky College of Engineering - Paducah campus and the Challenger Learning Center to expand programming and train volunteers to reach youth through 4-H SET programming.

Results

Evaluations reveal that youth have learned basic orienteering (using a map and a compass to find locations); how global positioning systems work; how to use global positioning systems to find and mark locations, develop route maps and return to specific coordinates; how to correlate locations on map to coordinates and locate them; and how to combine these coordinates for different aspects of community mapping. This type of outcome will in turn encourage youth to become involved in careers and businesses involved with developing and emerging technology to build our next generation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
806	Youth Development

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7700	4891

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

According to the 2002 U.S. Census Bureau Survey of Income and Program Participation (SIPP), 63 percent of all children under age five are in some type of regular childcare arrangement. One-quarter of these children are cared for in organized facilities, with day care centers (13 percent) being more commonly used than nursery or preschools (6 percent). To ensure that child care providers in these facilities are knowledgeable about proper childcare methods and developmental appropriate practices, all workers are state mandated to engage in twelve hours of training conducted by a certified provider.

What has been done

Cooperative Extension FCS agents are partnering with state and local agencies to provide little or no cost trainings to personnel from childcare organizations including in-home day cares, licensed day care organizations and Family Resource Youth Service Centers. Trainings focus on organizational skills, child abuse prevention, communication with parents, nutrition in the center, working with children with disabilities, implementing literacy and activities, child development and assessment, teaching self-control and approaching discipline.

Results

- Sample evaluations from local programs reveal:
- 90% gained new knowledge of child assessments.
- 80% engaged in learning activities focusing on modifying toys and activities for children with disabilities
- 65% learned new approaches to dealing with conflict between childcare staff and parents
- 75% were able to implement literacy strategies in other daily activities, and
- 50% acquired new knowledge on the 2005 dietary guidelines and were able to implement nutrition and physical activity into their centers.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	85000	106088

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Thousands of low and medium income families in Kentucky are not aware of the opportunities to reduce or eliminate tax obligations through the Earned Income Credit and Child Tax Credit programs

What has been done

KSU's Family Economics and Management Specialist provides leadership to the statewide program for Kentucky coordinating the efforts of Extension FCS Agents in all 120 counties, EFNEP Assistants, FDM Assistants, Small Farm Assistants, Churches, nursing homes, libraries and other local community agencies and organizations. The specialist collaborates with the IRS Volunteer Income Tax Assistance Program to provide free tax preparation at locations throughout Kentucky.

Results

Hundreds of families are filing tax returns that otherwise would not have done so with more than 600 applying for the Earned Income Tax Credit. Participants report using their tax credits and refunds for such things as car repairs allowing them to go to work and purchasing a washer and dryer so they would no longer have to go to the laundromat.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
801	Individual and Family Resource Management
607	Consumer Economics

Outcome #5

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	18000	22705

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Research tells us that children need high quality care for optimal development. When older youth learn the skills needed to provide high quality child care, they build personal assets for successful lives. Research also shows that when young care givers possess a high number of assets they are less likely to engage in risk behaviors such as early sexual behaviors. Through child care experiences they gain insight into the challenges parenting brings.

What has been done

Forty Kentucky counties offered 6 or more hours of child care/ babysitting training. This program offers youth the opportunity to learn to apply research based first aid and CPR procedures, to put babies to sleep on their backs, to avoid potential safety hazards, to clean up messes, to prepare nutritious meals, and to plan active play, quiet times a rest. These are essential parenting life skills as entrepreneurial skills needed to earn an income using child care skills.

Results

During 2007, 958 young people in 40 counties completed at least 6 hours of training in child care. Participants reported increased knowledge in the areas of safe practices for babysitting, new games to play with kids, quick nutritious snacks. Follow up surveys revealed 4-Hers felt more comfortable in performing practices such as selecting age appropriate activities and diapering infants. They reported that they felt better prepared to use babysitting as a means for generating income. Of those in the training, 681 youth reported that they created workforce preparation materials or engaged in entrepreneurial experiences. Six hundred, seventy-three youth reported using a safety practice which they did not use prior to the training. Overall, the babysitting workshops help youth be better prepared to provide child care services and helped them prepare life skills which they could use as a parent.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
801	Individual and Family Resource Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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

1. Evaluation Studies Planned

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

Evaluation Results

Key Items of Evaluation

Program #2

V(A). Planned Program (Summary)

1. Name of the Planned Program

Leadership and Volunteerism

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
608	Community Resource Planning and Development	0%	0%	34%	0%
802	Human Development and Family Well-Being	0%	0%	33%	0%
803	Sociological and Technological Change Affecting Individuals, Families and Communities	61%	0%	33%	0%
903	Communication, Education, and Information Delivery	39%	0%	0%	0%
Total		100%	0%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	77.0	1.6	0.0	0.0
Actual	85.7	0.0	1.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1306344	0	50550	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
8489993	0	207494	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Community leadership development programs have been 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.

- Counties identified 4-H volunteers and trained them through certification workshops, including livestock volunteer certification, master volunteer in clothing construction, master volunteer in foods, shooting sports, the Kentucky Volunteer Leadership Forum, Rock Eagle Leader Forum and others, thereby reaching more 4-H members across Kentucky. •The Youth Issues Conference is a four-day gathering of 100 top high school student leaders from across the Commonwealth. The focus of the conference is leadership, community partners, program development and the importance of youth/adult partnerships. Upon completion of the program, youth are committed to developing and implementing a project back home. •

- Kentucky 4-H Agents took the lead in the development of the Kentucky 4-H Club Handbook which is now assisting over 100 4-H Agents and 19,660 adult and youth leaders in developing positive adult/child relationships. The Kentucky 4-H Club Handbook has resulted in increased interaction between youth, their parents, and club leaders in planning their 4-H career.

- Sixty-one Kentucky counties reported 6,528 youth completing a minimum of 6 hours of Step Up to Leadership training, thus improving their knowledge and skills related to public speaking, communications, decision making, leadership and teamwork practices. 3,216 of these youth have reported successfully leading their 4-H Club meetings and 2,719 youth report actively working to change their community by planning and implementing community service projects.

- The critical need for additional access signage to increase traffic flow for Kentucky's expanding agritourism industry resulted in the creation of Cave Region Agritourism, Inc, an outshoot of Extension's agritourism efforts. Extensive public policy education with elected and governmental officials resulted in new amendments to Kentucky's State Cultural & Recreational Signage legislation creating signage identifying agritourism enterprises and hours of operation. This program also offers cost share regarding signage purchases.

- Research in the Department of Community and Leadership Development explores the nature, causes and consequences of change within farm families and farm-dependent communities. A longitudinal study of the persistence of work among older farmers highlights how farmers define "healthy enough to farm" and their perceptions of retirement and their opportunities to retire; an important component for defining the character of Kentucky's agricultural future.

- Kentucky Entrepreneurial Coaches Institute has provided the infrastructure for research on current trends, practices and policies relating to entrepreneurial efforts in Northeastern Kentucky. Case studies are underway focusing on 10 team initiatives which have arisen from the Entrepreneurial Coaches Institute focusing on lessons learned and applications for other rural areas of the country.

- The Business Retention and Expansion Program is a community-based research and education project in which community and county volunteers survey existing businesses about what it is like to do business locally. University of Kentucky and Kentucky State University researchers organize a local committee and a project plan, train volunteer interviewers, analyze survey results, and write a final report which includes recommendations for action.

- The UK College of Agriculture is a partner in the "LeaderNext Youth Leadership Development" study which examines how enhancing high school students' leadership skills develops youth as individuals and impacts their school and community involvement. Through school-based surveys as well as focus groups with youth, parents, and community stakeholders, this research examines youth-adult partnerships and youth community engagement.

- UK Community Leadership Development extension faculties are involved in international rural community development efforts. Through the Serbian Ministry of Agriculture and USDA, faculty have led seminars in rural Serbia and prepared community development "train the trainer" materials.

- Through the Certified Master Clothing Volunteer program over 18,000 educational contacts were made by volunteers in 52 Kentucky counties enhancing 4-H, Extension Homemaker, and family life skills, as well as enhancing skills of those in small and home based businesses. 90 active Certified Master Clothing Volunteers reported contributing 7,000 volunteer hours in teaching clothing construction and related skills to Kentucky families and youth. This equates to \$115,500 of volunteer time.

- Extension is considered not only an educational resource in most communities but an effective force in mobilizing other resources existing in communities. Extension is increasingly called upon to facilitate the formation of local coalitions that are essential to causing significant change. One example is community health and nutrition. Members represent organizations, businesses, and individuals concerned about the health of individuals and families in their communities. Programs resulting include 4-H Health Camps, Senior Health Fairs, in-service for elementary teachers, daycare workers and head start workers, Five-a-Day nutrition programs, EFNEP and FSNEP programs in school and after school, Backpack for Hunger, Longest Day of Play, Workplace Wellness, Weight the Reality Series, Get Moving Kentucky, and more.

2. Brief description of the target 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 and subject matter knowledge that we can build upon for leadership training. •"Step up to Leadership" curriculum and activities are designed for youth in grades K-12. •Kentucky teens with an interest in becoming more involved in their communities. •Local businesses, entrepreneurs, and those receptive to honing leadership skills and becoming more involved their community.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	586000	0	264000	0
2007	585759	162520	368616	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	2	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- n

Year	Target	Actual
2007	{No Data Entered}	0

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

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 Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	38000	57467

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

4-H Livestock Programs have historically been a foundation cornerstone for the 4-H Program. Due to changing demographics of the country which are reflected in 4-H membership, youth involvement in livestock programs has declined through the years, although 99 of Kentucky's 120 counties still have active livestock programs involving over 35,000 enrolled youth.

What has been done

In response to growing concern over the uniformity and quality of livestock programs, the Kentucky 4-H Livestock Volunteer Certification (KLVC) program was developed to (1) ensure that all youth and volunteer leaders have access to high quality, comprehensive materials regardless of county resources, (2) ensure a sound and well-rounded educational experience for youth enrolled in livestock and livestock-related projects, and (3) empower local volunteer leaders to successfully lead a club in a fun, interactive environment. A comprehensive curriculum with over 100 individual lesson plans and a state-of-the art resource kit has been developed for use by local volunteer leaders for work with county livestock clubs. Counties wishing to offer livestock projects are required to have volunteer leaders who attend workshops and have been certified in the use of the curriculum and resource kit.

Results

Over 400 local volunteer leaders in 99 Kentucky counties (which represents every county with a 4-H Livestock Program) have been certified in the Kentucky 4-H Livestock Volunteer Certification program. Evaluations of workshop participants indicated increased knowledge and skills on the part of program graduates. This has resulted in over 70 new livestock clubs, which has in turn increased the number of youth enrolled in livestock programs, and developed a better understanding of rules, regulations and expectations by leaders and the youth themselves.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
903	Communication, Education, and Information Delivery

Outcome #2

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	53000	68829

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Youth in rural Kentucky communities often report having limited experiences in the civic engagement process. Adults often make decisions on behalf of youth, with little or no input as to what issues are most pertinent. As a result, there are fewer positive youth-adult relationships, less sense of civic responsibility and fewer youth involved with volunteer efforts. Ultimately, there is a lack of community connectedness and sense of belonging on the part of youth. Counties witness a 'brain drain,' where youth leave these communities as adults, with no desire to return.

What has been done

Kentucky had been active in the 'Engaging Youth, Serving Communities' initiative. This project examines the experiences of youth and adults working together to promote community change; assessing the changes in attitudes of (of youth and adults) toward youth leadership and adult support.

Results

The project has allowed youth and adults to see one another in a different light. Youth and adults have more positive perceptions of each other's leadership skills and a new-found respect for the community. Moreover communities have developed a willingness to nurture youth leadership through practical experience. 4-H youth and adults are engaging in programs receiving support from local businesses which were implemented primarily by the youth.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	24000	26723

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Kentucky took a distinctive approach to the problem of assisting tobacco farmers who would suffer economically as the tobacco quotas were eliminated. Kentucky's legislature strategically set aside a portion of the funds from the Master Tobacco Settlement Agreement to help communities in tobacco-dependent regions adjust to changes in the tobacco sector and encourage agricultural diversification. The Kentucky Entrepreneurial Coaches Institute is designed to encourage economic diversification in 19 Northeastern Kentucky Tobacco Dependent Counties and focuses on training two classes (30 each) of community volunteers who are willing to coach or mentor entrepreneurs in the region.

What has been done

The KECI is structured as a 16-month program. Each person selected for the program receives a fellowship covering the costs of a series of nine seminars (2-3 day sessions). Eight seminars are held within the region and one seminar provides an opportunity for international travel to learn about entrepreneurship development in a different cultural setting.

Results

58 individuals have graduated during the past two years. The results of the program evaluation suggest that the fellows have been actively involved in building their own skills and, in turn, using them to create a culture of entrepreneurship in Eastern Kentucky. The numbers are impressive. Fellows had contact with 1162 entrepreneurs or potential entrepreneurs providing information about the coaching process and helping to increase awareness of the benefit of entrepreneurship in Kentucky. Over 500 of these contacts were in small groups and 166 formal meetings between the fellows and persons interested in learning more about partnering with an entrepreneurial coach - an average of six personal contacts with entrepreneurs for each coach. Long term impact of this program shows increased confidence, knowledge and skills related to the program participants ability to bring about economic impact to the region.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Other (none)

Brief Explanation

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

1. Evaluation Studies Planned

- Retrospective (post program)

Evaluation Results

Disasters often involve bad weather. This year Kentucky saw 20 tornados in one weather event, has experienced drought 2 of the last 5 years and regularly experiences floods creating issues with mold, mildew and sanitation issues, food contamination and plant and crop diseases. Extension Agents have helped clientele in local recovery from floods, tornados, drought and other weather related disasters

A new tool in Extension's arsenal of weapons has been the training of county Extension agents and certifying Extension offices as "StormReady." County Extension office staff are receiving severe weather training from the UK Agricultural Weather Service and the National Weather Service. The Extension staff must have weather radios, a disaster kit, an emergency action plan, and signage marking weather safe locations. Weather watchers are trained to alert other about severe weather that is occurring. In addition, Storm Ready supporters are local businesses or organizations that incorporate the principles and guidelines of the Storm Ready program into their severe weather safety and awareness plans.

To date, more than 80 Extension Agents and staff have been trained in Storm Ready procedures, all Kentucky Cooperative Extension offices have weather radios, and 30 Extension offices and the Research and Education Center at Princeton KY have completed StormReady certification. This has resulted in the certification of 37 counties, 5 towns/cities, 2 state universities, Fort Knox military site and 26 Storm Ready Supporters. Extension Agents are even more prepared to assist clientele in their recovery from floods, tornados, drought and other weather related disasters and were called into action to search for survivors, address livestock issues and to train victims in sanitation and food safety in the recent rash of tornados.

Key Items of Evaluation

Program #3

V(A). Planned Program (Summary)

1. Name of the Planned Program

Diet, Nutrition and Healthy Lifestyles

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%
504	Home and Commercial Food Service	0%	0%	10%	0%
702	Requirements and Function of Nutrients and Other Food Components	0%	0%	10%	63%
703	Nutrition Education and Behavior	67%	0%	20%	25%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	0%	0%	10%	0%
721	Insects and Other Pests Affecting Humans	0%	0%	10%	0%
723	Hazards to Human Health and Safety	4%	0%	10%	12%
724	Healthy Lifestyle	29%	0%	10%	0%
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	0%	0%	10%	0%
Total		100%	0%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	100.0	5.5	1.0	10.0
Actual	147.8	0.0	1.0	11.3

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c 2251516	1890 Extension 0	Hatch 10500	Evans-Allen 608007
1862 Matching 14632718	1890 Matching 0	1862 Matching 43100	1890 Matching 137270
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Extension conducted programs with and for clientele related to diet, health and food safety .Programs included volunteer training, health fairs, Extension Homemaker leader lessons, safe night programs, healthy homes programs, and more.

•Multidisciplinary programs aimed at strengthening local food systems included 4-H school enrichment, after-school programs and day camp and summer camp programs on 4-H Jump into Foods and Fitness, Weight--the Reality Series physical activity and weight management programs, and The Longest Day of Play. •By partnering with others in the community who are also targeting diet, nutrition and healthy lifestyles, multi-agency activities are opening doors to successes with new audiences.

•Research is continuing in the areas of nutrient effects on high-fat diets, antioxidant effects on cancer prevention, environmental effects on nutrient requirements and more. •

Protection against free radical-initiated oxidative damage has long been accepted as the most important biological function of vitamin E, however the mechanism has not been fully understood. University of Kentucky researchers determined that vitamin E attenuates the levels of labile iron, which is capable of catalyzing the formation of reactive hydroxyl radicals from superoxide and hydrogen peroxide, providing a rational explanation as to how vitamin E may exert its antioxidant function at the tissue level.

• Cooperative Extension's LEAP program (Literacy, Eating, Activity for Preschoolers) is changing the way Kentucky preschoolers eat. Working through Extension agents, Extension homemakers, day care centers, head start programs, EFNEP, and other volunteers, LEAP has created an interest in children and created parent child interactions to learn more about good nutrition through preparing healthy meals and to increase the amount of physical activity they participate in.

•The results of a study on meal consumption shows that 4 to 5 year old children are unable to consume two meals that provide about 500 Kcals and 25 g of protein in a span of four hours and will be useful in modifying breakfast, lunch and snacks at preschools managed by the Head Start Program, and encourage the introduction of structured moderate physical activity to induce healthy growth in this age group. •

A study of the nutritional status and health of agricultural workers should have important implications in providing effective nutrition-based strategies for reducing the health effects of pesticides and for improving the use of protective gear to enhance the safety of agricultural workers and minimize exposure to pesticide residues.

• The Kentucky Cooperative Extension Service and its HEEL program (Health Education through Extension Leadership) is participating in Team UP, a national cancer control pilot program. Through clinic-based/provider interventions, community education/outreach interventions, and the use of mass media to promote cervical and breast cancer screening, Team UP was clearly able to incur positive changes by increasing the screening rates for breast and cervical cancer among rarely or never screened women. Kentucky Cancer Registry data confirms that Team UP counties show an incremental increase in the percentage of breast and cervical cancer cases detected in earlier stages.

• Extension agents are partnering with local schools, agencies, and businesses to offer Get Moving KY, a wellness education program for over 15,000 Kentuckians. Adults and youth are mobilizing to develop walking trails, dance programs, and obstacle courses as well as nutrition and food safety training with hands-on experience in healthy snack preparation, and fast food facts. Families reported increasing daily activity, preparing healthier meals and snacks, and weight loss.

• University of Kentucky studies confirmed that enzyme hydrolyzed proteins, used in the meat industry to modify products' texture, water-binding, and flavor characteristics, can also function as antioxidants. Because low-cost proteins can be used, these prepared antioxidative hydrolysates have the potential to be economical natural food additives for processed meats. Investigations in meat batter systems strongly suggest the antioxidant technology developed can be commercialized.

• Extension's HEEL program and Extension Homemakers developed "Alzheimer's Disease: Getting the Facts." As a pilot program, 181 trained leaders taught 3,077 Homemakers who reportedly better understand Alzheimer's disease risk factors, financial impacts, and the importance of self-care for the caregivers. 80% reported the adoption of prevention strategies taught in this program and several counties have created caregiver support groups.

• University of Kentucky researchers are using sensors to explore acoustic emissions generated by bacteria, monitoring rates of accumulation and periodic cycles. Where emissions are significantly different in frequency and intensity, it may be possible to acoustically fingerprint strains of bacteria resulting in the most rapid of rapid assay methods.

• The Healthy Divas is a program designed to increase healthy lifestyle choices for adolescent females who are not regular or usual participants in after school activities due to lack of resources. Girls gained in their self-esteem levels, increased their exercise time, were making better food choices, and learned the importance of personal hygiene. They demonstrated newly-gained knowledge and skills by making health posters for schools and assisting Extension's Food and Nutrition Program Assistants with the 4-H "Health Rocks" curriculum.

• University of Kentucky studies show that PCBs likely do not exert their tumor promoting activities in the liver by activating PPAR-alpha or by increasing Kupffer cell activity. However, different PCBs were found to alter different metabolic pathways in

liver tumors. Therefore, prevention strategies for individuals exposed to PCBs likely should be focused on alteration of the metabolic pathways influenced by PCBs or inhibition of PCB-induced NF-kB activation as more effective strategies.

Weight: The Reality Series" is an Extension weight reduction program offered in 51 counties with 1,792 participants. Through diet, portion control, food logs, exercise, and support systems, one-third of the participants succeeding in losing 5% or more of their initial weight during the program. Current studies will determine the long term effects of this program.

The Expanded Food and Nutrition Education Program (EFNEP) is successfully improving diet and nutritional practices for low-income families with children while reducing the incidence of food-borne illness in these homes through improved food handling and storage procedures. Educational classes were conducted by program assistants in one-on-one, small group, and school settings for 14,201 participants in 4,289 Kentucky families. Food safety practices, such as thawing frozen foods and storing foods properly, improved for 76% of participants.

The Food Stamp Family Nutrition Education Program is making a difference. Over 90% of participants showed a positive change in their eating habits. Fruit and vegetable consumption increased from 3.2 serving per day to 4.5 servings for participants. 87% reported improvements in one or more areas of food resource management, 90% improved in one or more dietary quality behaviors, and 60% improved in one or more food safety behaviors.

The Rural Price Project examines geographic differences in the cost of living by comparing local prices for commonly-used market basket of goods and services with a widely-used national market basket (ACCRA) using contextual factors such as distance and access. Specifically, the project examines the question: If a resident made the same purchases in an urban and a rural area, would they encounter the same prices?

A University of Kentucky research project expands our understanding of the post-harvest mechanisms responsible for the undesirable flavor compounds associated with soybean protein products, thus allowing modifications of food products to improve stability and flavor and opening the door for increased use of soybeans as a protein source in human diets.

The Small Steps to Health and Wellness Program focuses on the increasingly large numbers of Americans having problems with their health and their finances and addresses the similarities in these two issues, as well as providing strategies for taking small steps to improve both their health and their finances.

2. Brief description of the target audience

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

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	1007000	0	123000	0
2007	922486	87382	558852	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	2	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Published research journal articles

Year	Target	Actual
2007	1	0

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

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 Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	85000	119230

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Kentucky is the 4th most obese state in the nation and every year the reported rate of physical activity is less than the year before. According to the US Department of Health and Human Services, Center for Disease Control and Prevention 87% of Kentucky youth ate fewer than 5 servings of fruit and vegetables daily during the past seven days. As portion sizes have grown in the last 20 years, so has the incidence of adult and childhood overweight and obesity. Many chronic diseases are directly related to poor eating habits, obesity and overweight.

What has been done

The 4-H Jump into Foods and Fitness (JIFF) program curriculum focuses on the daily practice of healthy lifestyle choices, increased physical activity, planning meals and serving correct portion sized, new strategies for physical and mental relaxation and the implementation of gradual changes through the development of a personalized MyPyramid.

Results

Over 8200 youth in 48 Kentucky counties participated in the 4-H Jump Into Foods and Fitness Program in FY07 and can now apply the principles of the Food Pyramid to their diets. Youth completed personal activity logs, recorded new health and nutrition habits and used pedometers to measure increases on physical activity. Sixty-eight percent of these youth reported adopting at least one new health or nutrition habit during their participation in the program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #2**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	40000	47696

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Obesity has reached epidemic levels in Kentucky with heart disease being the number one killer of Kentuckians. Adults and youth need educational information as well as motivation to get moving and improve their diets.

What has been done

'Weight: The Reality Series' is a ten-week weight reduction educational program designed to help adults learn and adopt habits to control their weight. The curriculum includes lesson plans, participant handouts, marketing materials and evaluation tools. In addition to the educational sessions, Extension agents are working to establish organized activities and support groups to help insure success in health related programs.

Results

'Weight, the Reality Series' was offered in 51 counties with one-third of participants succeeding in losing 5% or more of their initial weight during the program. Program participants averaged 5.6 pounds loss with a waist reduction of 1.1 inches. Of 23 behavioral changes measured, those that were considered most effective by successful participants were:

1. Measured and controlled portions
2. Drinking more water
3. Walking at least 30 minutes 5 days a week
4. Becoming more active during the day
5. Keeping a journal of what and how much you eat and your activity level
6. Limit size of dinner portions

In 2007, over 119,230 individuals reported an increase in knowledge or skills related to diet and exercise and 47,696 actually made lifestyle changes as a result of involvement in Extension programs related to improving personal health, one of the fastest growing components of Extension programming for families.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
703	Nutrition Education and Behavior

Outcome #3

1. Outcome Measures

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. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	26000	34527

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Environmental hazards in housing affect the quality of life and add billions to health care costs annually. Family budgets may be strained due to costs associated with health and safety problems caused from defects in or improperly maintained home systems and use of hazardous products. Health hazards include allergens, mold, toxic materials, dangerous gasses, fire safety and other health concerns.

What has been done

The Healthy Homes and Communities curriculum is used with adults and youth in various settings. Programs are focused on fire safety, smoke detectors, carbon dioxide and poisonous gas and its detection, radon and lead issues, safe storage and use of pesticides, mold and mold abatement as well as other related topics.

Results

In FY 07, 21 Kentucky counties reported participating in Extension's Healthy Homes and Communities Program with 2163 clientele improving their knowledge and skills related to home safety and causes of environmental hazards in housing. Actions most frequently taken by clientele as a result of participation in Healthy Homes and Communities training were:

- * Posting emergency numbers by the phone
- * Eliminating one or more identified safety hazards
- * Installation of smoke detectors
- * Safe storage and usage of home pesticides and hazardous household products
- * Testing homes for radon

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
723	Hazards to Human Health and Safety

Outcome #4

1. Outcome Measures

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. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	26000	32093

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Although we typically look at disease and social ills as the greatest threat to our youth, the fact remains that accidents are responsible for more calls to the emergency room and deaths than any other factor.

What has been done

In an effort to help youth learn safety practices many county Extension programs include a youth Safety Education Day. Programs are typically structured around practical living skills and everyday dangers youth face. A review of the core content of county programs showed that youth are exposed to: Safety and Health Agencies in the community, the importance of using safety equipment such as helmets for ATV's, bicycle safety, life jackets and watercraft safety as well as helping youth understand safety practices that help to prevent injuries and provide a safe environment.

Results

Program evaluations reveal that most youth could identify at least four unsafe practices or situation in their own home, each youth had corrected at least one of the concerns, and youth reportedly had used for or more of the safe practices learned.

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
724	Healthy Lifestyle

Outcome #5**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	35000	30042

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Farmers markets are traditionally looked at as a way to market locally grown produce in an effort to generally more income for producers, this also provides an opportunity for producers to educate consumers on food safety and food preservation practices. Also, research has shown that the more rural areas of the state have less access to fresh fruits and vegetables and available at affordable prices.

What has been done

Extension Agents supported 112 Farmers Markets in 87 counties with 1732 local producers taking advantage of this opportunity to provide local shoppers with farm fresh, 'Kentucky Proud' produce. Most of these markets accepted food vouchers and food stamps from low income and senior customers.

Results

Extension agents assisted markets with 579 media campaigns and 287 educational programs assisting customers with information on nutrition, food preparation, food safety, storage and preservation, thereby making fresh, locally grown produce available and affordable to more Kentucky families.

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
501	New and Improved Food Processing Technologies
703	Nutrition Education and Behavior
723	Hazards to Human Health and Safety
702	Requirements and Function of Nutrients and Other Food Components
724	Healthy Lifestyle

V(H). Planned Program (External Factors)**External factors which affected outcomes**

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

Brief Explanation

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

1. Evaluation Studies Planned

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

Evaluation Results

Key Items of Evaluation

Program #4

V(A). Planned Program (Summary)

1. Name of the Planned Program

Social and Economic Opportunity

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
511	New and Improved Non-Food Products and Processes	0%	0%	15%	0%
601	Economics of Agricultural Production and Farm Management	10%	0%	30%	16%
602	Business Management, Finance, and Taxation	0%	0%	20%	17%
603	Market Economics	0%	0%	15%	0%
604	Marketing and Distribution Practices	6%	0%	10%	17%
608	Community Resource Planning and Development	84%	67%	0%	0%
610	Domestic Policy Analysis	0%	0%	10%	0%
803	Sociological and Technological Change Affecting Individuals, Families and Communities	0%	0%	0%	50%
805	Community Institutions, Health, and Social Services	0%	33%	0%	0%
Total		100%	100%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	25.0	6.5	1.3	1.8
Actual	32.0	2.5	3.7	2.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
488370	185075	566039	87451
1862 Matching	1890 Matching	1862 Matching	1890 Matching
3173942	31922	2323435	124000
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Extension has delivered educational programming and workshops on topics such as understanding community dynamics, asset analysis, business planning, marketing, and hospitality management. •Extension has gone beyond the traditional agriculture, Homemaking, and 4-H council structure and has been involved in the 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 include 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. •Agritourism enterprises provide small business development opportunities and potential profitability to sustain family farms and the rural landscape. The Kentucky Cooperative Extension Service has facilitated the establishment of leadership networks which have resulted in farm enterprises and tourism organization members networking to increase individual enterprise revenues and state tourism dollars through collective marketing. •UK researchers took part in a study evaluating the effects of mad cow disease, foot and mouth disease and food poisoning events and its effects on Japanese beef prices and how consumers responded to and differentiated the health issues. This helps producers and retailers better understand reactions to safety concerns. •Researchers measured the impacts of environmental policies, competition policies and food safety standards on food exports from developing countries. Findings showed when importing countries change policies, it is difficult for developing countries to comply and it can be costly in terms of lost exports. •Middle and lower income KY families are experiencing a financial crisis in part due to a lack of financial awareness. As a result of Extension's Estate and Financial Planning for Life Program, over half of the 1,200 participants have implemented a record-keeping system, 330 have moved forward with estate planning and one quarter have reported an increase in their net worth. •A study to determine compensation levels necessary for private landowners to open their land to public use will assist public policy makers in relieving over-used protected lands such as national parks as well as to induce new visitors into areas that will result in improved local revenues. •The High School Financial Planning Program engaged over 10,000 teens in programs which resulted in significant improvement in financial knowledge, behaviors, and confidence with over 50% of students reporting a change in spending habits. •A study of the economic impact of the health care sector as well as the market demand for health services provides evidence that recruiting health services to an area not only increases accessibility to health care but is also a strong economic factor. •As producers look to find ways to increase income and add value to products, Extension has promoted Marketmaker as a web-based link between producers, processors, and consumers. Tremendous interest and acceptance has resulted in more activity in Kentucky than the host state and more than Iowa and Nebraska combined. •The Tobacco Buyout Program was designed to decrease or prevent declines in net income for tobacco producers and tobacco-dependent communities. This study looked at the effect of public policy changes (tobacco buyout program) on family businesses and determined, among other things, that personal characteristics such as age, gender, level of education had a significant impact on the individual's decision to start new businesses or enterprises. •Support for Extension programming in the arts by the College of the Fine Arts has resulted in the establishment of two County Extension Agent for the Arts positions, local arts councils, art festivals, music festivals, and craft festivals to celebrate the arts and local heritage skills, exposing citizens to new cultural activities and promoting markets for local products and skills. •As an example of local pride of ownership of Extension programs and facilities, the Bath County Extension Education and Marketing Center has become home to a local farmers' market, a regional produce auction, and a commercial kitchen and light processing area for value-added processing for local home-based businesses. •Partnering with the Kentucky Community College System, Extension agents are not only providing computer and farm management training, but are using tobacco settlement funds and grant dollars to provide graduates of the programs with computers to use in the management of their operations. •The American Private Enterprise System program is preparing high school juniors for careers through workshops with local owners and operators of cooperatives, partnerships, individually owned businesses and corporations. Youth who excel qualify to attend the state-level program where achievement allows them to progress to the national conference and qualify for scholarships.

• Documenting oral histories of black farmers in Kentucky by capturing the first-hand life experiences and recollections will result in a virtual documentary of their experiences. It is anticipated that the study will provide some possible ameliorative measures to reverse the rapid decline in their numbers as farmers and landowners, and contribute to the field of agriculture.

•The University of Kentucky and Kentucky State University conducted the Business Retention and Expansion program which helps local businesses to determine the local business situation and makes recommendations to help keep existing businesses in the community. Local Extension Agents report involvement in business retention and expansion through such efforts as local development districts, creation of Empowerment Zones, expansion of water and sewer utilities, upgrading of local resources to improve internet access, Main Street/Renaissance programs, job skills training, land-use planning and local Chambers of Commerce.

KSU's Family Economics and Management Program creates awareness and trains eligible families on the Earned Income Credit (EIC) and Child Tax Credit (CTC) campaigns. KSU's Family Economics and Management Specialist provides annual leadership to the program for the state of Kentucky coordinating the efforts of Family and Consumer Science Agents (in 120 counties), EFNEP Assistants, FDM Assistants, Small Farm Assistants, churches, day care centers, nursing homes, and libraries, etc. informational. The Specialist collaborates with the IRS Volunteer Income Tax Assistance Program (VITA) to inform citizens about the availability of free tax preparation at locations throughout Kentucky. As a result more than 600 families applied for the tax credit.

• The Community Resource and Economic Development Program targets some of Kentucky's largest tobacco-dependent

counties by supporting new venues for locally-based economic development. This program has resulted in increased partnerships with County Chambers of Commerce in targeted counties across the Commonwealth. The partnerships have then led to initiatives to increase small business development and support from county governments for entrepreneurs.

Efforts between KSU Land Grant Programs and the Small Business Development Center at Murray State University resulted in the first Hopkinsville Entrepreneurs Advantage Training Program. Each graduate completed a business plan with three of the graduates starting their own business, using the plan they created, within one month of graduation.

2. Brief description of the target audience

- County extension agents
- Farm operators
- Public policy makers
- High school youth
- Agritourism providers
- Active and potential community leaders
- 4-H members

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	275500	0	14500	0
2007	348164	81427	69516	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	6	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Published research journal articles

Year	Target	Actual
2007	3	0

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

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 Measures**

Number of people involved in addressing significant community issues.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25000	26358

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Insufficient Physical activity and obesity are primary risk factors for cardiovascular disease -Kentucky's leading cause of death. Community health service providers often identify lack of exercise as a community health problem. Extension's 'Get Moving Kentucky' campaign is designed to increase awareness of the critical need to increase personal activity levels for better mental and physical health and provide incentive for individuals to demonstrate practice change.

What has been done

The Allen County 'Get Moving Allen County' program illustrates Extension's ability to mobilize a community to address this significant community issue. Extension Agents led the Community Health Coalition (Extension Service, Health Dept., Extension Homemakers and School System) in establishing a local campaign which included health care professionals, YMCA, CURVES Fitness Center, young parents, senior citizens, minorities, media and fast food franchise owners. Committee members 'localized' Extension's 'Get Moving, Kentucky' program to better meet local needs and timelines for marketing and implementation.

Results

A six week campaign was developed. The 'JACKSONIAN DAYS' festival was the kickoff with YMCA's Health Walk and Fitness. Local businesses provided \$5,000 in cash and contributions for awards and incentives for completion of activities and to encourage the return of participant's records at two week intervals. Individuals returning progress records received a series of campaign fitness prizes along with an educational newsletter and additional chances for fitness prize drawings. A comprehensive marketing plan was developed starting with an awareness event at 'senior night', the last home basketball game, where 250 attendees received campaign registration promotions, 'Get Moving, Allen County' educational flyers, a map of the community walking trails developed by the schools to support this program, and a ticket for fitness door prize drawings. Television features, newspaper features and advertisements, radio news features and advertisements and campaign flyers at fast food restaurants were completed and distributed. The library featured a senior marathon runner author promoting the incorporation of fitness into lifestyle at an age.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #2**1. Outcome Measures**

Number of ongoing coalitions with which extension is actively involved.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2100	2700

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Viable agritourism enterprises differ from traditional tourism attractions in that family farm locations are usually not easily accessible from population centers and major transportation routes. The critical need for additional access signage for increased profitability was targeted by state and regional agritourism networks.

What has been done

Extension Agents initiated and facilitated regional agritourism leadership discussions regarding amendments to the Cultural and Recreational Signage Program to meet agritourism enterprise needs. Project partnerships/coalitions were then developed with Department of Transportation officials, statewide regional agritourism networks, Kentucky Economic Development Cabinet, Kentucky Agritourism Agency and State Representative- 21st District, Jim DeCesare - legislative liaison to Kentucky's 'Unbridled Spirit' Marketing Task Force. With Extension agents as advisors the team developed, facilitated and coordinated public policy education presentations for Cabinet secretaries, tourism officials, transportation program leaders and legislators.

Results

After an extensive public policy educational campaign over a 2.5 year period the agritourism-friendly amendments were confirmed in June, 2007. The changes allow for signage displaying a red barn logo to designate agritourism enterprises, hours of operation, and approval for smaller directional signage on county/state road right-away locations. Agritourism enterprises will also be eligible for signage cost share with the Transportation Cabinet providing installation. As a result of this development, one agritourism operation has already established \$5000 marketing presence through Natcher Parkway sign installation, immediately increasing traffic count, sales and enhanced profitability.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
601	Economics of Agricultural Production and Farm Management

Outcome #3

1. Outcome Measures

Number of people who are ready to enter the workforce.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	6700	6762

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

4-H is helping Kentucky's youth grow smarter about money, careers, and making life decisions. It uses three programs - Reality Store, Mini-Society, and Dollars and Sense--to help kids acquire a skill that some of us never learn: how to stretch dollars so you can thrive financially. These programs, requested by school systems and supported by classroom teachers, chambers of commerce, and parents, have been immensely popular.

What has been done

To conduct Reality Store, Mini-Society and Dollars and Sense programs, Extension Agents work with schools, local businesses and local government through fairs, workshops and simulations, youth make real life decision regarding education, careers and the related salary, and costs associated with life. Youth are forced to accept a salary associated with their chosen career (based on educational level they choose to achieve), budget that salary and seek out assistance through special 'helps' such as banks and government assistance programs when resources run short.

Results

4-H Extension estimates that last year 40,000 Kentucky kids took part in a Reality Store. A lot of youth realize for the first time that there is a connection between the career they choose, the educational requirements for that career, and the potential lifestyle that career might produce. They are amazed at how much it costs to raise a family. The result is that they begin to think about education and career and also realize that budgeting is part of life and that wants and needs are different.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #4**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30000	34596

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Knowing how to produce commodities without knowing how to get them into the hands of the consumer has been the demise of many entrepreneurs.

What has been done

An innovative new web-based system is connecting Kentucky agricultural businesses, farmers and markets in a unique way to benefit consumers and producers alike. Called MarketMaker, the system features a mapping function and census data on locales and enable buyers and sellers of food products to find each other quicker and easier. Sellers use this interactive tool to identify potential markets and find processors and other businesses they need to profitably move their products to the market. The program comes to Kentucky through the collaborative efforts of the UK College of Agriculture, the Kentucky Department of Agriculture, the Governor's office of Agricultural Policy and Allied Food Marketers. Access to the Web site is free and open to the public from any computer connected to the Internet. Kentucky is only the fourth state to become part of this national program developed by University of Illinois Extension.

Results

Use of this system exceeds expectations as traffic on the system in Kentucky exceeds the host state and rivals the total for Nebraska and Iowa combined. Examples of impact include:

- * A home based business processor who, as a result of this program, exceeded the capacity of her kitchen and used Marketmaker to locate someone to process and package her product.
- * A cattle producer who determined he could sell his 'branded beef' product to high-end consumers, the target consumers are households where income is in excess of \$100,000.
- * A chef in a French restaurant where dining is white tablecloth upscale prides himself in using only the freshest ingredients. Marketmaker allows him to locate farmers who can direct market and deliver fresh organic eggs and vegetables to his restaurant.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
601	Economics of Agricultural Production and Farm Management

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Other (none)

Brief Explanation**V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- After Only (post program)

Evaluation Results

Food safety events are the most challenging issues facing marketing channels of agricultural products today. Food safety is also identified as one of the specific targets of opportunity for the College of Agriculture. A key question regarding consumer and producer behavior is how they react when faced with unexpected food safety shocks. Firm-level strategic decision making regarding product differentiation, health and wellness functions of food, and consumer responsiveness in an environment of highly integrated monopolistically competitive agriculture and food industries is the heart of this research. Better understanding of consumer reactions to food safety scares helps the food industries construct strategies that can restore consumer confidence after safety crises.

University of Kentucky researchers examined the time-varying Japanese price reactions to the 2001 Bovine spongiform encephalopathy (BSE) discovery, the 2000 outbreak of Foot and mouth disease (FMD), and the 1996 E. Coli food poisoning events. The results show the beef safety events had different negative impacts on Japanese retail beef prices suggesting that consumers understood and differentiated among health risks.

Results are expected to help exporters and producers create credible quality assurance programs through more effective, transparent communication with consumers. Heightened visibility has created opportunities for branding, labeling, and product differentiation based on traceability and quality. Credence attribute labeling reduces information costs to consumers and results in increased demand for quality-assured products. Producers and retailers can use these results to further differentiate their products and perhaps earn higher premiums, as a strategic response to consumers' risk perceptions. Findings will also reinforce the need for food industry representatives to provide accurate information when a safety crisis arises. Results will show retailers another way to raise consumer confidence in the nation's supply chain by reducing erosion of demand and market share when safety crises do occur.

Key Items of Evaluation

Program #5**V(A). Planned Program (Summary)****1. Name of the Planned Program**

Competitive Agriculture

V(B). Program Knowledge Area(s)**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	1%	0%	5%	0%
123	Management and Sustainability of Forest Resources	0%	0%	5%	0%
136	Conservation of Biological Diversity	0%	8%	0%	0%
201	Plant Genome, Genetics, and Genetic Mechanisms	0%	0%	10%	0%
202	Plant Genetic Resources	0%	0%	5%	4%
204	Plant Product Quality and Utility (Preharvest)	0%	0%	0%	2%
205	Plant Management Systems	51%	20%	5%	9%
211	Insects, Mites, and Other Arthropods Affecting Plants	0%	0%	10%	16%
212	Pathogens and Nematodes Affecting Plants	1%	17%	5%	0%
301	Reproductive Performance of Animals	0%	4%	10%	0%
302	Nutrient Utilization in Animals	0%	0%	10%	15%
303	Genetic Improvement of Animals	0%	0%	0%	7%
307	Animal Management Systems	37%	40%	5%	43%
311	Animal Diseases	0%	8%	0%	2%
401	Structures, Facilities, and General Purpose Farm Supplies	1%	0%	10%	0%
402	Engineering Systems and Equipment	0%	0%	5%	0%
404	Instrumentation and Control Systems	0%	0%	5%	0%
604	Marketing and Distribution Practices	9%	3%	10%	0%
903	Communication, Education, and Information Delivery	0%	0%	0%	2%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	145.0	13.3	45.3	12.5
Actual	191.3	14.8	45.3	18.4

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c 2916294	1890 Extension 1128695	Hatch 3498061	Evans-Allen 1258238
1862 Matching 18953141	1890 Matching 144701	1862 Matching 14358584	1890 Matching 64603
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 0

V(D). Planned Program (Activity)

1. Brief description of the Activity

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 are important mechanisms for disseminating technical information on production agriculture and horticulture.
- Printed materials, mass media, and now web sites including eXtension and electronic communications are being employed to disseminate the latest research findings on decision-making.
- Kentucky is providing national leadership in eXtension programming efforts in HorseQuest, DAIReNET, and GardenData.org. Both national eXtension content coordinators are Kentucky Extension Specialists.
- Master Cattlemen Program consisting of 10 four-hour sessions on management, nutrition, forages, genetics, reproduction, herd health, marketing, etc. with 716 producers in 62 counties completed the requirement for graduation from this program in FY07.

University of Kentucky research into the bioconversion of the nearly 11 million tons of agricultural, forestry and urban-waste fibrous biomass for bio-fuel production in Kentucky could yield 600 million gallons of ethanol and could replace a significant quantity of gasoline utilized in the state.

- The tobacco settlement program required Bull Purchase Program participants to participate in Extension programs on selection, performance, records, genetic evaluation, and crossbreeding. 31 counties participated making nearly \$1 million available to producers to purchase nearly 1,000 bulls on 2007, thereby improving the genetics of beef herds.
- The University of Kentucky sheep unit is conducting the largest study ever comparing carcass quality data of hair vs. wool sheep, leading to a more economically viable sheep industry in Kentucky and the nation. Sheep are evaluated on carcass quality, yield, maternal ability, and susceptibility to parasites in a pasture-based production system.
- By providing on-line information and learning opportunities, the University of Kentucky led in the development of DAIReNET, a web-based resource designed to meet the educational and decision making needs of dairy producers and the dairy industry. Information is available 24/7 through 1) frequently asked questions, 2) ask an expert, 3) cutting edge content in 13 areas, 4) searchable state and national newsletters, 5) links to the industry and 6) upcoming extension programs. www.extension.org/dairy+cattle.
- UK Meat Cutting School, one of the few remaining meat-cutting programs in the nation, has found new life and is helping family farms, home-based businesses, and businesses as large as Kroger find new markets, stay competitive, and be responsive to consumer demands.

- The Integrated Resource Management (IRM) Team for beef has developed a simple, pocketbook record-keeping system which is using this information as a statewide data base of Kentucky Beef Producers. This data base is being used to demonstrate real-world economics to Kentucky beef producers. The average size producer with 50 head in this program is increasing efficiency by 5% annually.
- The Kentucky AIM Program encourages the formation of local alliances to enable producers to lower input costs and create a greater demand for their product. Currently 6 alliances are functioning with 378 producers who own 21,000 cows. Input costs are seeing 20-30% price reductions and feeder cattle sales have generated a \$5-\$12/cwt premium.
- Annie's Project is a Risk Management Educational Program geared to the needs of farm women. The primary objective is to empower women to manage critical decisions using processes and to build local networks. Over 75% of participants have written goal statements and are in the process of completing business plans for their operations.
- The FSA Borrower Training Workshop satisfies the requirement for borrowers obtaining loans from the Farmers Home Administration to receive training in farm business planning, financial management, and crop and livestock practices. Participants report increasing profits averaging 18.2%.
- Kentucky has become one of the largest poultry producing states in the nation. Studies of poultry litter to determine nutrient, antibiotic, and pathogenic bacteria are being conducted to determine how these agents impact environmental quality and as well as animal and human health when they are applied to the soil.
- University of Kentucky studies were the first to document that mares in late gestation and early lactation will mobilize skeletal minerals to support the developing fetus and the demands of milk production even when calcium adequate diets are fed. Providing calcium and phosphorus supplementation in late lactation did not appear to enhance re-mineralization of the maternal skeleton even when pastures provided more than the currently recommended amounts of calcium and phosphorus for non-lactating mares.

- The Department of Plant and Soil Sciences Weed Management Team is focusing on development of weed management strategies that are effective, economical, and now more importantly than ever, environmentally sustainable. Emphasis currently is on corn weed management, glyphosate tolerant alfalfa, and ironweed and thistle in pastures.
- Horticultural research in wine production is focusing on appropriate grape and fruit varieties and training and pruning practices to produce the best and most financially viable wines for Kentucky. Since Kentucky established its enology program, the industry has grown from 15 wineries selling 25,000 cases in 2005 to 35 wineries selling 65,000 cases in 2007 with another 12 ready to enter the retail scene in 2008.

University of Kentucky researchers have had considerable success in developing and improving sustainable technologies and systems to measure, model, and control indoor air quality and reduce air pollution emissions from poultry and livestock buildings without sacrificing profitability of these enterprises.

- UK Researchers are now able to obtain 99% control of Maple Shoot Borer, typically responsible for killing the leader in 30-34% of maple nursery stock requiring costly retraining and loss in tree value. Maple trees generate \$5 million annually in the Kentucky nursery industry.

Research investigating the relationship between moisture content, photosynthesis, and plant biomass in woody plant greenhouse production regulating irrigation delivery by maintaining plants at a percentage of maximum photosynthesis resulted in maximal photosynthesis and growth with reduced irrigation cycles.

- As a result of pawpaw rootstock trials, KSU researchers can recommend to growers and nurseries cultivar seed sources that can produce suitable rootstock for grafting and budding of pawpaw cultivars.
- Researchers have discovered that pawpaw fruit

pulp can be used as a source of biomass for the extraction of acetogenin compounds for pharmaceutical use and for production of botanical pesticides. Pawpaw based botanical pesticide could reduce synthetic chemical inputs for conventional fruit and vegetable growers, allow development of organic management techniques, as well as offer an alternative in chemical rotation to slow the development of insect resistance. •Researchers have discovered that heat and ultraviolet light are likely candidates for use by beekeepers to control Nosema apis and Nosema cerana diseases in Honey Bees.Both controls are important because they are relatively safe, inexpensive and do not leave chemical residues in beeswax or honey, as many antibiotics do.

•KSU Aquaculture scientists are evaluating of the genetic status of cultured freshwater prawns which are a one billion dollar industry worldwide. There are some indications that inbreeding may be a problem and this research will help to determine if that is real. •Pregnant mares grazing on endophyte-infested tall fescue frequently incur reproductive problems. Now questions have arisen about whether the products used to control the infected fungus to also cause reproductive issues.Results from a UK study show the commonly-used herbicides did not increase the risk of fetal loss. •

Extension Agents supported 112 Farmers Markets in 87 counties with 1,732 local producers taking advantage of this opportunity to provide local shoppers with farm fresh, "Kentucky Proud" produce. Agents assisted markets with 579 media campaigns and 287 educational programs assisting shoppers with information on nutrition, food preparation, storage and preservation. Joint marketing and educational efforts enable local producers to advertise and attract local shoppers more effectively. •

UK College of Agriculture faculty has been evaluating the feasibility of implementing the 25x25 initiative, a national organization with the goal of having 25% of our expected energy use in 2025 produced from domestic renewable resources and improvements in energy efficiency. The study will guide what alternatives are most feasible for Kentucky to consider and would include new job creation, additional tax revenue, and reduced expenditures by Kentucky citizens on energy. •

The KSU Small Farm Program and 2501 Project provide one-on-one education to limited-resource cooperators in targeted counties to help them to better manage their farms, to incorporate new enterprises, to make their farms more sustainable, and to strengthen their financial position.The Small Farm Program had nearly 12,000 contacts with farm families with over 5,800 contacts through the OASDFR 2501 Project.Some 250 families enrolled in the one-on-one program show average increases in annual farm income of \$9,000 - \$12,000. •

The GardenData.org's Frequently Asked Question section, to which the extension specialist contributes c gardening answers, has attracted more than 50,000 page views from more than 10,000 visitors.GardenData.org was originally conceived as a project to serve Kentucky, but has become part of the national eXtension project in 2007. •

The Kentucky State University Fish Disease Diagnostic Laboratory provides diagnostic services for aquatic life diseases in Kentucky and surrounding states. In addition to educational programs and diagnostic services, this year KSU aquatic researchers conducted research which has resulted in diagnosis methods and treatments for fungus infected largemouth bass and hybrid striped bass. •

The Kentucky State University Goat Production and Management program involves basic goat production research and outreach to producers providing answers to concerns related to profitability, production practices, and health concerns with goats.The program also includes a training component for Extension personnel statewide. As a result, producers report changing forage management practices, rennonvating pastures to improve forage utilization, improved management of parasites, improving kid management practices and reducing feed costs by going to alternative feed sources.

2. Brief description of the target audience

- Beef producers with extension agents selecting producers for participation in Master Cattleman Program: farm operators with a variety of backgrounds and experiences
- Farmers' market members and potential members
- Community and farm leaders
- Consumers
- Extension agents
- Limited resource farmers

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	1270700	0	39300	0
2007	1798044	466696	144506	0

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

Patent Applications Submitted

Year	Target
Plan:	1
2007 :	6

Patents listed

- Soy Protein Products with Reduced Levels of Sulfites and Sulfite-Free Radicals
- A Molecular DNA Based Test for a Chromosome Inversion on ECA3 Associated with the Tobiano Spotting Patterns in Horses
- Syneresis Sensor Technology for Cured Moisture Content Control in Cheese Making
- An Enhanced Expression Construct Encoding Equine Interleukin 15 (EIL 15) as a Vaccine Adjuvant for Stimulating Proliferation of Horse (Equus Caballus) Peripheral Blood Mononuclear Cells
- Novel Therapeutic Approaches to Specific Human Toxoplasmosis Syndromes
- Use of Phylloplanins for Preserving Organic Compounds and Products
- Mechanical System for Processing Cured Burley Tobacco Leaves

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	21	150	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Graduate research assistants engaged in research

Year	Target	Actual
2007	25	25

Output #2

Output Measure

- Published research journal articles

Year	Target	Actual
2007	20	150

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

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 Master Cattlemen and Grain Academy and 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 Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	19000	23439

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Maple shoot borer is a major pest of nursery-grown maples which comprise about 30% of total wholesale landscape plant sales in Kentucky or nearly \$5 million annually. Infestation of a tree's central leader causes undesirable forked growth form. Training a new central leader is costly and despite those corrective measures, the trunk incurs a crook that reduces tree value.

What has been done

Research confirmed that infestation occurs in April soon after planting. A synthetic sex attractant was developed from analysis of secretions from virgin female borers. That lure was used in traps to reveal the borer's flight period which will enable growers to pinpoint the timing of preventive control measures.

Results

Left unmanaged, maple shoot borer typically kills the terminal leader of 30-40% of the trees requiring costly retraining and loss in tree value. A protocol was developed whereby nursery producers can obtain 99% control with a single timed application. Our work also greatly extended the window for management providing growers flexibility during the busy spring planting season. Research on pest-resistant maples will reduce production costs and chemical inputs while supporting recommendations regarding the best-adapted trees to use for Kentucky landscapes.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
307	Animal Management Systems
604	Marketing and Distribution Practices
205	Plant Management Systems

Outcome #2**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2400000	40284456

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Soybean Rust (SBR) is potentially a devastating disease in North America. Field-level epidemics are sporadic and regional level epidemics are rare, so far. However, it is extremely important to monitor the U.S. soybean crop for SBR occurrence so that producers can implement effective fungicide management programs when needed.

What has been done

Kentucky has participated in the North American SBR monitoring effort since 2005. In 2007, the total monitoring effort for Soybean Rust in North America involved the establishment of over 700 Sentinel plots across 41 states and five Canadian Provinces. The University of Kentucky Extension Plant Pathologist coordinates SBR surveillance activities in the southern U.S., and is chairman of the I.P.M. - P.I.P.E. steering committee which oversees surveillance activities in the U.S. Soybean Rust was successfully monitored in North America during 2007. The Network also provided occurrence data for other soybean pests in addition to SBR. These data have been fed into existing national data bases including N.A.P.I.S. Data were also used in refining SBR predictive models which is a research focus of the Sentinel Network. SBR monitoring activities were extensive in Kentucky during 2007 with monitoring activity occurring in both both soybeans and kudzu, an alternative host. This activity involved 52 individuals including crop consultants, industry agronomists, Extension Agents and soybean growers. SBR was detected in Kentucky late in the season but too late in the season to justify spraying.

Results

Past SBR monitoring activities in North America, in general, and in Kentucky, specifically, have been very successful. As a result, soybean producers have a high level of confidence in the monitoring activities. They trust the output of the sentinel network to let them know when to spray and when not to spray fungicides for SBR management. In 2007, it is estimated that \$207M was saved in the U.S. by soybean producers not spraying a fungicide for SBR control on 28.76M acres. In Kentucky, we estimate that 400,000 acres were not sprayed with a fungicide as a direct result of SBR monitoring efforts. At an estimated cost of \$18/ac, that represents a savings in Kentucky of \$7.2M. Data were supplied to soybean rust disease forecast researchers for use by modelers in refining existing models for SBR.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
604	Marketing and Distribution Practices
212	Pathogens and Nematodes Affecting Plants
204	Plant Product Quality and Utility (Preharvest)

Outcome #3**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	23000	25500

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Since the decline of the tobacco industry in Kentucky, individuals have looked many places for a single commodity to replace tobacco that simply isn't there. Because of Kentucky's vast forage base, numerous small farms and proximity to markets nationwide, beef production offers one of the greatest hopes for the agricultural economy in the commonwealth.

What has been done

The University of Kentucky Beef Extension Group offers numerous programs to improve beef cattle production and profitability. Through the Allied Inputs and Marketing Program (AIM), livestock producers learn about group purchasing and marketing and how small and medium-sized producers are able to take advantage of economies of size. The AIM concept encourages producers to form local alliances or cooperatives to enable producers to lower input costs of production and create a greater demand for their product as well as to help them organize and develop collective production and marketing plans.

A major emphasis of the Beef IRM Team has been to continue to promote usage and expand the database generated by a software package for production and economic analysis. The IRM Committee Chose CHAPS (Cow Herd Appraisal Performance Software). Using a pocket record book for producers, data has been used to create a database of Kentucky Beef Production. The goal has been to develop a state-wide production and economic database that we can use to aid in our education to demonstrate, 'real world,' economic impact of incorporating certain practices.

Results

Currently, six AIM alliances are functioning in Kentucky. Together they encompass 378 producers who own approximately 21,000 cows. Purchased costs of products were 20-30% lower than available through traditional markets. Financial analyses have indicated that production costs were reduced \$45 per cow. Cooperative marketing efforts have also been successful. Feeder calf sales have generated a \$5-12 / cwt. premium over other cattle sold in Kentucky that same day.

The economic impact of the CHAPS program is difficult to measure because the results of better records is generally reflected in decreased costs instead of increased income. With the average herd size of our participants being approximately 50 head, we feel we are improving economic efficiency by at least 5%.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
307	Animal Management Systems

Outcome #4**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	716

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Kentucky Master Cattleman Program continues to be an integral part of the comprehensive effort underway to replace diminishing tobacco revenue by improving Kentucky's expanding beef-forage operations. It is a collaborative effort of the University of Kentucky College of Agriculture, Kentucky Cattlemen's Association, and Kentucky Beef Network.

What has been done

The program consists of 10 four-hour sessions that focus on management, nutrition, facilities, environmental stewardship, genetics, reproduction, herd health, and marketing. Materials are developed by Extension specialists from the University of Kentucky, who deliver the program and train extension personnel.

Results

The Master Cattlemen program was conducted in 62 counties with 716 producers completing the program and making production improvements affecting over 83,000 head of cattle and 82,000 acres of forages.

These producers sold over 22,000 calves through CPH sales which have very stringent ownership, weaning, feeding and vaccination requirements. Even for those non-CPH calves marketed by these producers, vaccination and castration before weaning were management practice most commonly adopted.

Record keeping is a part of the cattle business that few producers enjoy, but keeping good records is very important to an operation's success. Keeping accurate records allows producers to make decisions based on cow performance, not guess work. As a result of participation in Master Cattleman 235 producers reported adopting record-keeping systems for their livestock operations.

Master Cattlemen 62 Counties Reported Participating

716 Number of producers completing the Master Cattleman Program.

30 Number of non-producers/industry reps, vets or others completing program.

Number of Participants adopting record-keeping systems as a result of participation in Master Cattlemen (enter a number for each)

83 CHAPS

27 SPA

125 Other

36778 Number of cows in a controlled breeding/calving season.

33859 Number of cows exposed to semen tested bull.

9490 Number of cows bred using estrus synchronization and AI.

33562 Number of cows placed in a cross breeding system.

37958 Number of cows placed on a complete mineral.

32456 Number of cows vaccinated.

12028 Number of non-CPH calves implanted.

17222 Number of non-CPH calves castrated before weaned.

25511 Number of non-CPH calves vaccinated.

22021 Number of calves sold in CPH Sale.

39088 Number of acres hay now covered or stored inside.

43239 Number of acres grazing land now rotationally grazed.

4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices
307	Animal Management Systems
205	Plant Management Systems
401	Structures, Facilities, and General Purpose Farm Supplies
301	Reproductive Performance of Animals

302	Nutrient Utilization in Animals
303	Genetic Improvement of Animals

Outcome #5**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	26000	31066

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Farming is a business and as such, is subject to different tax laws than the average homeowner. For most farming businesses the changing tax laws, required documentation, depreciation of equipment, tax implications for the CRP and tobacco buyout payments and other public policy decisions create a tax situation which cannot be learned from a pamphlet or from a disk purchased in a box.

What has been done

For 43 years the Department of Agricultural Economics has conducted a state-wide professional continuing education program for farmers, attorneys, certified public accountants, tax preparers and related persons. This is the largest and highest profile federal and state income tax education program in Kentucky. Instruction from the teaching team includes UK farm management specialists, CPAs, Internal Revenue Service agents, and Kentucky Department of Revenue personnel. Particular instruction on the tobacco buyout payments, CRP payments, equipment lease/purchase was the focus of the agricultural tax issues. The workbook for these seminars is a 600+ page book prepared collaboratively by the Land Grant University Tax Education Foundation, which includes 26 universities and for which UK was a founding member.

Results

In 2007 nearly 1,700 persons attended Beginner, Ethics, and Federal-State tax workshops and were awarded professional continuing education credits (8, 2, or 16 hours, respectively) The 'Beginner Tax Preparation' seminars attracted 68 persons and will be continued into 2008. A new 'Ethics Seminar,' designed to meet the needs of Enrolled Agents and other professionals was pilot-tested in 2007 and attracted 113 participants. Participant evaluations from each seminar indicate high satisfaction with the seminars and continuing high-demand confirms the vitality of program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices
903	Communication, Education, and Information Delivery

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Other (none)

Brief Explanation

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

1. Evaluation Studies Planned

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

Evaluation Results

Key Items of Evaluation

Extension Agents supported 112 Farmers Markets in 87 counties with 1732 local producers taking advantage of this opportunity to provide local shoppers with farm fresh, "Kentucky Proud" produce.

Thirty-six of these markets captured sales figures and reported over \$2.5 million in sales as a result of their efforts, translating to over \$5 million in statewide receipts.

Joint marketing and educational efforts enable local producers to advertise and attract local shoppers more effectively. Extension agents assisted markets with 579 media campaigns and 287 educational programs assisting shoppers with information on nutrition, food preparation, storage and preservation.

Farmers Market 87 Counties Reported Participating
112

How many Farmers Markets is Extension supporting in your county?
1732

How many different sellers participated in your county's farmers' markets this marketing season?
239

How many educational programs were conducted for Farmers Market members or potential members in your county?
6278

How many attended the above mentioned educational events?
287

How many educational programs/demonstrations were conducted at Farmers Markets for clientele/customers? (Generally related, but not restricted to, food use, preparation, storage/preservation, nutrition, food safety, etc.)
579

How many Farmers' Market media campaigns targeted consumers in your county? (In addition to your regular Extension newspaper, radio and newsletter efforts.)
\$2,530,562

If you survey your market membership to determine total income generated by this market over the season, enter that figure here.

Program #6

V(A). Planned Program (Summary)

1. Name of the Planned Program

Agricultural and Environmental Quality

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	0%	0%	10%	5%
112	Watershed Protection and Management	1%	0%	10%	5%
123	Management and Sustainability of Forest Resources	16%	0%	10%	0%
131	Alternative Uses of Land	0%	0%	0%	6%
133	Pollution Prevention and Mitigation	1%	0%	5%	5%
205	Plant Management Systems	19%	0%	10%	5%
206	Basic Plant Biology	0%	0%	5%	0%
211	Insects, Mites, and Other Arthropods Affecting Plants	0%	0%	5%	34%
212	Pathogens and Nematodes Affecting Plants	0%	0%	10%	0%
213	Weeds Affecting Plants	0%	0%	10%	25%
215	Biological Control of Pests Affecting Plants	0%	0%	10%	7%
216	Integrated Pest Management Systems	0%	0%	0%	3%
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	0%	0%	5%	0%
403	Waste Disposal, Recycling, and Reuse	8%	0%	0%	0%
601	Economics of Agricultural Production and Farm Management	0%	0%	5%	5%
605	Natural Resource and Environmental Economics	55%	0%	5%	0%
	Total	100%	0%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	25.0	2.0	7.3	8.5
Actual	34.2	0.0	8.3	11.9

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c 521795	1890 Extension 0	Hatch 874515	Evans-Allen 888742
1862 Matching 3391170	1890 Matching 0	1862 Matching 3589645	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 0

V(D). Planned Program (Activity)

1. Brief description of the Activity

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 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 was conducted in 37 Kentucky counties this year training 427 new Master Gardeners, bringing the total to 951 statewide. This year they contributed 28,975 volunteer hours and served 28,279 clientele working with local Extension Agents.
- Master Logger program consisting of three one-day sessions focusing on best management practices, safety, laws and regulations.
- Woodlot owner education program was offered in four Kentucky Counties this year with 160 woodlot owners with 46,723 acres of woodlot participating. Success of this program is resulting in larger regional program being developed to expand clientele opportunities for involvement.
- The Water Pioneers program resulted in high school sophomores returning to 28 Eastern Kentucky counties to conduct programs resulting in elementary school youth practicing water conservation and water quality practices, business using more "water friendly" cleaning products, and increased awareness of water quality and conservation issues through local media campaigns.
- The Department of Landscape Architecture is piloting the SLEUTH cellular automation urban simulation model with Lexington and 6 central Kentucky Counties – the fastest growing in Kentucky. This model is a predictive tool for the conversion of forest/agricultural land to land use patterns consistent with their topography and developing infrastructure.
- A KSU research project promotes the use of municipal sewage solids as a way to reduce the cost of chemical fertilizers and at the same time act as a soil Efficient and effective use of biosolids as soil conditioners has proven to be one of the best means we have for maintaining and restoring soil productivity while also enhancing soil bioremediation and removal of pesticide residues.
- KSU researchers are using the richness and diversity of leaf beetles as indicator species in making management decisions such as prescribed burning or re-introduction of native species. Also, the documentation of rare and potentially endangered species of beetles contributes to the understanding and appreciation of the biodiversity in Kentucky
- The Department of Biosystems and Agricultural Engineering (BAE) continues in their research and education efforts associated with micro controllers to enhance machine function that will improve efficiency of farm operations while at the same time reducing off-target applications of pesticides and fertilizers.
- Biosystems and Agricultural Engineering is working in the field of water quality to further explore erosion and storm water runoff control through the use of seep basin technology in residential and small commercial construction sites.
- Urban Integrated Pest Management programs are conducting research and educational programs to stem the rising tide of water quality issues resulting from fertilizer and pesticide usage by homeowners and lawn and landscape companies in urban areas.
- Although the benefits of Streamside Management Zones on water quality and forest hydrology are not questioned, the department of Forestry is conducting a replicated experiment to investigate the effect of different (SMZ) sizes. The ultimate goal of this research is to develop streamside management zone BMPs that are appropriate for the Central Appalachian Region.
- Biosystems and Agricultural Engineering is working with processes and equipment for precision application of manure by sampling, analyzing, incorporating and mapping practices leading to less run-off and more efficient use of this resource.
- Reforestation is becoming a more realistic reclamation option. Post-mine land reforestation research results are being used to re-educate mining companies and regulatory authorities. The majority of coal-mined lands were forested prior to mining; however, new research deals with the issues of soil structure, soil compaction, and unsuitable soil chemistry which has pushed reclamation efforts toward pasture establishment rather than a return to forest land for decades.
- The Department of Forestry is continuing a research project building on ten years of research examining the potential role of carefully prescribed fire in the management of stand structure, light availability, insect survival, and tree seedling success.

The Organic Agriculture Program at KSU trains farmers and gardeners in the skills needed to take advantage of the growing demand and premium prices for organically-grown products. The number of certified organic farms in Kentucky continues to grow exponentially, reflecting skills acquired and new marketing opportunities. The KSU Organic Working Group website has attracted more than 3,000 page views from more than 1,000 unique visitors.

2. Brief description of the target 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
- Commercial Lawn and Landscape companies

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	204000	0	68000	0
2007	248988	310626	117009	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	100	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Graduate student research assistants

Year	Target	Actual
2007	10	10

Output #2

Output Measure

- Published research journal articles

Year	Target	Actual
2007	15	90

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

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 forestry best management 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 Measures**

Number of individuals adopting practices that protect water quality.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	23000	22877

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) requires the restoration of post-mining land-use capability to a level 'equal to or better than' that which preceded mining. The majority of coal-mined lands in Appalachia were forested prior to mining; however, most mined lands are reclaimed to pasture. Reasons for this is that reclamation practices tend to inhibit tree growth: 1) excessive compaction of the spoil, 2) unsuitable or sometimes toxic rooting material, and 3) competition for nutrients and water by aggressive and often invasive herbaceous species

What has been done

Researchers at the University of Kentucky have discovered that reforestation of these sites is possible using low compaction techniques (i.e. loosely dumping 6 to 8 feet of fresh spoil on a stabilized area). To date, this practice has not received widespread implementation due to unsubstantiated concerns over stability, sediment runoff, and aesthetics. Weathered sandstone materials, mixed with surface soils, are known to be excellent materials for use in constructing surface soils on coal surface mines being prepared for reforestation. However, such materials may not be available and/or economically retrievable at a given mine. The primary goal of this project is to determine which mine spoil (shale; brown weathered sandstone; gray unweathered sandstone; or a mixture of shale and sandstones) is most suitable for the rapid development of a soil medium capable of supporting plant life.

Results

The results of this project are critical to the Office of Surface Mining's Appalachian Regional Reforestation Initiative. Efforts are undertaken to re-educate mining companies and regulatory authorities regarding what constitutes good forestry reclamation practices. These efforts will also assist in determining the appropriateness of spoil type for reforestation. This result can have significant economic implications for mining firms and the reforestation of mined lands. Additionally, landowners and the public can benefit from the capability of mining firms to restore lands that will support productive forests.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources

Outcome #2**1. Outcome Measures**

Number of people utilizing forest management practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3800	3911

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Kentucky is a heavily forested state (47% of land area). These forests provide an estimated economic impact of more than \$6 billion annually. Unfortunately, our forests have experienced numerous abuses and attacks. These include exploitive timber harvests, forest fires, insects, diseases, and invasive plants to name a few. In order to better address these issues woodland owners need information about forest management and its vital role in ensuring the future sustainability of Kentucky's woodlands and the important role they play.

What has been done

The Woodland Owners Short Course (WOSC) was developed to provide an enhanced educational opportunity for the more than 423,000 woodland owners of Kentucky. The WOSC is a statewide program consisting of a series of full-day forestry educational programs spread out across Kentucky. The University of Kentucky co-sponsors this program along with several state forestry and water resource agencies. County Extension Agents share significant roles with Extension specialists and researchers including program planning, presentations, and logistics.

The FY07 WOSC was held in Hart, Bell, Crittenden, and Fayette counties. Individual segments addressed Timber Management and Harvesting, Managing Woodlands, Ponds, Pines, and Roads, Wildlife, Water, and Non-Timber Crops, and Woodland Recreation and Invasive Species. More than 160 woodland owners representing 46,723 acres attended the 2007 WOSC; the average woodland owner owned 292 acres. Participants indicated they would use information from the program on a total 45,980 acres.

Results

As a result of this program, participants have reported increased income from their properties through on-farm enterprises. As a result of positive evaluations the WOSC will continue in FY08 on a regional basis, giving more woodlot owners access to the program. The long-term impacts from the WOSC will result in increased revenue earned from timber sales for those using a professional forester, improved wildlife habitat, increased woodland productivity, and improved woodland health.

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics
123	Management and Sustainability of Forest Resources

Outcome #3

1. Outcome Measures

Number of acres upon which new or additional forestry best management practices are used.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	800000	707954

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Currently the Kentucky Master Logger Program has 3,536 loggers working in Kentucky representing over 2,988 small businesses employing 9,263 individuals that provide rural economies with \$895,042,950 annually through the delivery and primary processing of timber that they harvest. Annually these Kentucky Master Loggers impact 322,538 acres of woodlands and harvest 1.10 billion board feet of timber (or aligned products) providing over \$179 million dollars of timber revenue to 8,937 landowners in Kentucky.

What has been done

In 2007 a total of 8 introductory three day training programs graduated 387 new loggers. Also in 2007, 589 Master Loggers obtained continuing education and applied to maintain there Master Logger designation. In total, 976 loggers obtained or maintained their Master Logger status. The participants were exposed to training in environmental protection, safe logging practices and education in laws and regulations impacting the timber harvesting industry.

Results

Pre- and post-training testing indicated an average 66% increase in knowledge. Post-training evaluation indicated that a total of 750 small logging firms were able to comply with state regulations and 229 of these were new firms that were provided the necessary training to comply with state law requirements enabling them to continue logging. These firms provide income for 2,236 individuals (owners or employees) the majority in rural and semi-rural economies. Environmental assessment of program participants indicated that best management practices usage ranged from 80 to 90 percent for streamside management zones and haul road and skid trail drainage control practices to 30 to 40 percent for the use of improved stream crossings and successful revegetation of skid trails. The end result was 128 perennial streams and 354.9 intermittent streams were provided protection from sediments.

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25000	24728

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Kentucky has more miles of navigable river than any other state in the country. Kentucky rivers, streams, lakes and reservoirs are not only used for drinking and recreation, but also for an expanding food production, food processing and landscape plant production industry. Kentucky's limited water supply is threatened by pollution and overuse. According to the Kentucky Division of Water, education and outreach are key elements in the effort to prevent pollution and to conserve water.

What has been done

In 2007, the Cooperative Extension Service worked with the Kentucky Water Resources Research Institute to train Water Pioneers. The Water Pioneers were high-school sophomores from 28 eastern Kentucky counties. These students received a week of intense water education from natural resource experts in the College of Agriculture. Pre- and post-tests and showed an 87% increase in content knowledge. The Water Pioneers were challenged to return to their respective counties and design and implement a community project based on their week-long training.

Results

Seven months later, each of the Water Pioneers reported making an impact on their community. Many of the Pioneers worked with young elementary students, passing along water education, water quality and conservation information and practices they had learned earlier. Others made a direct impact on their community by working with business such convincing local restaurants to switch to water-friendly cleaning products which are more environmentally friendly. Others created more awareness of water quality issues and conservation practices by working with the local media.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
102	Soil, Plant, Water, Nutrient Relationships

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy

Brief Explanation

Extreme drought along with increased fire dangers undoubtedly reduced activity level in forested areas. This lack of moisture reduced successes in new plantings of trees and conservation enhancements involving seedlings.

A significant drop in new house construction has impacted the price of timber, delaying harvest of timber by those who can afford to delay or adjust the timing of income.

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

1. Evaluation Studies Planned

- After Only (post program)

Evaluation Results

Key Items of Evaluation

In FY07, 37 Kentucky counties reported offering the Master Gardener Program training 427 new volunteers with knowledge and skills to work with Extension Agents in addressing the Home and Commercial Horticulture needs in these communities.

In FY 07, nearly 1000 Extension Master Gardeners (includes persons trained in previous years) contributed 28,975 volunteer hours and served 28,279 clientele addressing Home and Commercial Horticultural needs through workshops, meetings, community garden programs, newsletters, and in-office and on-site diagnostic efforts.

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- Master Gardener 37 Counties Participating

427 Number of new Extension Master Gardeners trained?

951 Number of Extension Master Gardeners active in this county program?

28975 Number of volunteer hours contributed by Extension Master Gardeners this program year?

28279 Number of client contacts made by Extension Master Gardeners in county educational/service programs?

(Includes meetings, programs, workshops, newsletters, Q&A in office and on site, and diagnostic work done.)