

2009 Kentucky State University and University of Kentucky Combined Research and Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

Condensing the 2009 accomplishments of Kentucky's Research and Extension efforts into a small package is a challenge, but it is an exercise that generates appreciation for the dedicated county and campus personnel who bring excellent programs to the doorstep and computer screen of millions of Kentuckians.

Some of our 2009 accomplishments include: Educational programs to help our clientele recover from the ice storm that did extensive damage to western Kentucky. The Science, Engineering, and Technology Initiative in 4-H was expanded. More than 20,000 citizens in 101 counties were involved in Second Sunday, a statewide event dedicated to getting people to increase their physical activity level. The Kentucky Extension Homemakers Association reached the \$1 million mark in funds it has raised for ovarian cancer research. Moneywise Web site at <http://ces.ca.uky.edu/moneywise/> was developed, where Kentuckians can find our best resources for dealing with economic challenges. High impact educational programs such as Horse College, Master Grazer, and Master Logger resulted in significant improvements in animal nutrition, farm income, natural resources utilization. New support programs were initiated with military personnel and their dependents.

In 2009 we refined an issues flow process through which leaders and agents talk about what is needed at the county level. We were very careful to maintain the ideas generated across the state, building programming in response to what we have heard. The issues flow is a dialogue made possible by our presence in all 120 counties. It is powerful, and it enables Kentucky Cooperative Extension and Research Programs to stay relevant and of value to our stakeholders. It is our pledge to use this conversation to maintain programs that address the right issues so we can make a positive difference for Kentucky's farms, families, and communities.

Agricultural research through Kentucky's land grant programs has been providing new opportunities to farmers and residents for more than 130 years. With external grants and contracts now reaching over \$30 million a year, agriculture researchers address problems of agribusiness, consumers, international trade, food processing, nutrition, community development, soil and water resources, and the environment with over 300 externally funded projects. The research continuum reaches from basic to applied science, with new fundamental knowledge as well as applied knowledge that has impacts on the lives of Kentuckians and people across the world.

As a result of interaction with councils and other stakeholders, the 2009 program year emphasis as defined by the number of contacts is as follows:

29% Global Food Security and Hunger	6% Social and Economic Opportunity
25% Life Skill Development	6% Childhood Obesity
13% Leadership and Volunteerism	2% Food Safety
12% Diet, Nutrition and Healthy Lifestyles	1% Sustainable energy
7% Agricultural and Environmental Quality	

Joint activities between the University of Kentucky and Kentucky State University are an expectation of faculty and staff. This collaboration led to Kentucky receiving a nationally competitive grant which will allow for the development of a comprehensive educational program for beginning farmers and ranchers. The two institutions are barely 40 miles apart, which is convenient in terms of faculty and specialist cooperation, but in many respects the institutions operate as a single program. 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 bond has resulted in shared program efforts, many of which are reported in this document. Efforts include programming and research in such areas as:

Grapes and Wine	Environmental Education for Youth	Youth Entrepreneurship
Goats	eXtension	Small Business Development
Cattle Production	Tobacco Sector Farming Adjustments	Business Retention & Expansion
Pawpaws	U.S. Animal Identification Program	Family Financial Management
Small Farm Programs	Organic Ag and Vegetable Programs	E-commerce
Aquaculture	AgrAbility	Health & wellness
Sustainable Agriculture	Limited Resource Families	Home Horticulture
Youth Development	Entrepreneurial Coaching Institute	Childhood Obesity

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 sciences, and one position in agricultural economics.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	470.0	35.0	59.6	35.8
Actual	593.2	38.0	88.0	40.6

II. Merit Review Process**1. The Merit Review Process that was Employed for this year****2. Brief Explanation**

The Kentucky Cooperative Extension 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 needs in the greatest number of counties, current and planned research and educational resources, and our ability to effectively deal with the issues.

Forty-four non-university individuals who comprise the State Extension Council representing both the University of Kentucky and Kentucky State University, 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 in addition to peer reviews via, regional, national, and professional association colleagues.

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 specifically with non-traditional groups
- 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 also has an agricultural advisory council, homemaker's council, home economics advisory council, and 4-H council. They communicate research and resource needs to the universities. Through an Issues Gathering Process, topics of greatest importance are brought forward through district and state meetings attended by leaders, extension agents, extension program coordinators, and district directors. The issues identified are then presented to state program leaders, extension specialists, and department chairs for response.

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

In addition, the experiment station meets formally with other entities: quarterly with the Kentucky Tobacco Research Board to set priorities for research by the Kentucky Tobacco Development Center to assist in the transition from the tobacco-based economy; quarterly with the Equine Initiative 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
- Open Listening Sessions
- 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. All program committees used a variety of methods for capturing input, including council dialogue and discussion, focus groups, 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, 11,862 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
- Other (Serving on advisory groups/councils for organizations)

Brief explanation.

Even when Extension advisory councils appear 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 broaden that expression 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, resources and opportunities.(3)The third information source is current research and knowledge which may have implications for county programming.

Extension Councils began the program development process by collecting situational data from these three sources. Council members and Extension staff together or independently pulled this information together. Additional meetings of councils are held to review the data and discuss the implications of the findings. The product of this discussion is 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 or 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 will be considered

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

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

Some of the issues that were identified and/or were under discussion in FY09 include:

Financial Management- A website has been created called Moneywise that has educational resources related to financial decision-making for the home, youth, farm, health, family, credit, energy, food, travel, garden and business.

Environmental Issues- A See Blue Go Green website has been developed with educational resources for clientele on environmental stewardship related to the home, farm, woodlands, travel, garden, youth and work.

Bullying -A curriculum has been developed to use with children and parents on how to recognize and deal with bullying.

Family Communications- A website has been developed with the most current information on family communication for all ages, stages and situations in the family.

Weight Management - a website was 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).

Leadership has identified the need to enhance ways of delivering educational materials via the Internet. A workgroup focusing on social networking and its use by Extension groups was developed. One of the outcomes of this group is a set of CES Guidelines for Use of Social Networking sites by Extension-sponsored groups.

Teen Programs including Middle School - In response to Middle School Youth being Underserved in Extension Programs, a workgroup focusing on social networking and its use by Extension groups was developed. One of the outcomes of this group is a set of CES Guidelines for Use of Social Networking sites by Extension-sponsored groups.

KSU conducted a series of in-service trainings to meet the need for job creation and has branded a web-based curricula that was developed by the University of Nebraska and is now available for use by KY Extension Agents as they work with entrepreneurs.

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.

Concerns over costs of travel and distance - resulted in the installation of Distance Learning Technology to enhance communications and educational efforts through network of videoconferencing sites in key Kentucky counties, saving clientele and personnel time and travel expense and expediting issue response time.

Information Flow from County to State - Extension Council members are now involved in implementing a new "issues flow" process which strengthens leader involvement in both issues identification in the educational resources needed to conduct the programs. Stakeholders were also more directly involved in deciding budget priorities and resource acquisition including levels for county contributions for supporting Extension 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
8771447	2974229	5541562	3195446

2. Totaled Actual dollars from Planned Programs Inputs				
Extension			Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	7389830	2974228	5026285	3195446
Actual Matching	68464436	2974228	26795516	3195446
Actual All Other	0	0	0	0
Total Actual Expended	75854266	5948456	31821801	6390892

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from				
Carryover	2443639	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	Global Food Security and Hunger
6	Agricultural and Environmental Quality
7	Food Safety
8	Climate Change
9	Sustainable Energy
10	Childhood Obesity

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Life Skill Development

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
801	Individual and Family Resource Management	7%	66%	0%	0%
802	Human Development and Family Well-Being	93%	17%	33%	0%
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	0%	0%	34%	0%
805	Community Institutions, Health, and Social Services	0%	0%	33%	0%
806	Youth Development	0%	17%	0%	0%
Total		100%	100%	100%	0%

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	98.0	16.0	0.3	0.0
Actual	120.9	7.3	1.2	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
1507525	581533	116783	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
13966745	581533	923528	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, Cooperative Extension 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 :

Established a "Moneywi\$e" website that received 3,670 hits form 49 states and 39 countries
 KSU's SKY program provided court-referred parenting education to 548 adult and 106 youth.

Keys to Great Parenting Program

KSU provides hands-on workshops and labs in animal sciences and veterinary medicine for youth in the AgDISCOVERY program.

Supporting Families in Times of Crisis program

KSU maintains a retirement and estate planning web site for farm families

Established a web site to provide information for Kentuckians regarding environmental "green" topics

Operation Military Kids in collaboration with the U.S. Army

KSU taught Selling and Shopping on the Internet. It stressed starting and an on-line business and identity theft protection.

KSU's PACT program conducted 30 hours of hands-on learning activities on natural resource management for 140 5th, 6th, and 7th graders

4-H Science, Engineering and Technology which includes Aerospace/rocketry; biotechnology; Electronics/electricity; energy; Geospatial Science (GPS/GIS); and Robotics

KSU's Family Resource Management program informed low-income families of the Earned Income Credit program

High school students are exposed to career opportunities through the Summer Transportation Institute.

Over 23,000 youth participated in a 4-H camping experience

4-H Reality Store taught teens financial management and the importance of getting a good education

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.

KSU provided classes in resume writing and interview skills for families in financial distress

Classes emphasizing technology are offered on digital photography, starting a business on line, marketing thorough on-line livestock markets, marketing through MarketMaker and eBay, banking, and social networking

Entrepreneurship is taught to 23 high school youth at the KSU YEP Camp each summer.

UK researchers are exploring ways to increase life skills and developmental assets among 6th and 7th graders.

Training in child development was provided for staff of childcare centers, in-home day cares, licensed day care organizations and Family Resource Youth Service Centers

Training was provided to grandparents raising grandchildren

KSU taught financial management strategies to 27 families.

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

Youth from age 9 through high school

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	150000	200000	1100000	0
Actual	528929	313209	1114083	208806

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	3	
Actual	1	2	3

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Published research journal articles

Year	Target	Actual
2009	3	2

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.
6	Number of parents reuniting with their children Number of parents successfully completing the training course
7	Reported interest in science career Successful completion of the program

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
2009	75000	94180

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

In FY09, Extension offered Estate and Financial Planning workshops in 13 Kentucky counties with 242 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 durable power of attorney.

Results

In the few months following the Estate and Financial Planning programs, 100% increased their knowledge of record keeping, 60% have or are in the process of obtaining a will, durable power of attorney or a health directive, and one-third 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

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
2009	195000	234062

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

America faces a significant challenge. Young people are not prepared with the necessary science, engineering and technology workforce skills to compete in the 21st century. According to the National Assessment of Educational Progress only 18 percent of high school seniors are considered proficient in science. A mere 5 percent of college undergraduates earn degrees in science and engineering. 4 H is uniquely positioned to foster discovery of and passion for science, engineering and technology through non formal experientially based delivery methods that address science abilities (process) and science anchors (content) in a hands on way under guidance of a trained 4 H volunteer.

What has been done

In FY09, 4 H Science, Engineering and Technology activities reach 24,141 youth through Aerospace/rocketry; biotechnology; Electronics/electricity; energy; Geospatial Science (GPS/GIS); and Robotics with hands on learning experiences through 4 H clubs, after school, in school and camp programs and trained 242 volunteer leaders and agents through in service trainings. 4 H has received several grants of money and equipment and established collaborations with the UK College of Engineering, Kentucky Arts Council, Challenger Learning Centers, Tennessee Valley Authority and others in support of this program.

Results

In FY09, 4 H Science, Engineering and Technology activities reach 24,141 youth through Aerospace/rocketry; biotechnology; Electronics/electricity; energy; Geospatial Science (GPS/GIS); and Robotics with hands on learning experiences through 4 H clubs, after school, in school and camp programs and trained 242 volunteer leaders and agents through in service trainings. 4 H has received several grants of money and equipment and established collaborations with the UK College of Engineering, Kentucky Arts Council, Challenger Learning Centers, Tennessee Valley Authority and others in support of this program.

4. Associated Knowledge Areas

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

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
2009	5000	4231

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

According to the 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

FCS agents partnered 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, age-appropriate activities, and nutrition, self control and discipline. In addition, FCS agents prepare and distribute Pre-School Pages, a newsletter to day care providers, teachers, and parents in 17 western Kentucky counties.

Results

Sample evaluations from local training 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

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	85000	97224

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Good communication skills are one of the preeminent skills necessary to grow as an individual, a community members and a leader. Strong writing, reading and presentation skills are essential for youth to develop relationships with peers and adults as well as to be able to express their ideas, thoughts and feelings in a group or community setting.

What has been done

Speeches and demonstrations are one of the seven core content areas in the Kentucky 4-H program. Communications events are held within 4-H clubs, in school enrichment programs, in after-school programs, and at day and summer camps. Participants learn to prepare the presentation and then to give it in front of an audience.

Results

During 2009, 18,865 children and youth presented a speech or demonstration and 18,103 completed at least 6 hours of communications programming. Of those participating, 12,197 said that the communications program had improved their academic performance in language arts and English, and 6,174 indicated that they had used their communications skills to assume a leadership role.

4. Associated Knowledge Areas

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

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
2009	18000	22113

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

Twelve 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 2009, 647 young people 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 of generating income. Of those completing the training, 324 youth reported using a safety practice which they did not use prior to the training. Evaluations also revealed that 336 youth reported that they created flyers or business cards, kept financial records, or engaged in other workforce preparation or entrepreneurial experiences. 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 adults.

4. Associated Knowledge Areas

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

Outcome #6

1. Outcome Measures

Number of parents reuniting with their children Number of parents successfully completing the training course

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Data from the 2000 Census show African American children representing 14% of the overall population in Fayette County (KY). When looking at figures from the Child Welfare System, African American children make up 46% of the total amount of children in out of home care (OOHC). This illustrates that African American children in Fayette County are over represented in out of home care at a rate of 3.4 times. A Fayette County Family Court Judge was concerned about barriers that families of color may perceive which could cause them to be unsuccessful in meeting goals designed for family reunification.

What has been done

The SKY Families Program offers a culturally strategic approach to parenting education for court referred parents. The SKY Families program is managed by a KSU Agent for Family and Consumer Science and collaborates with a faith based organization, Imani Family Life Center, Inc., which serves as the fiscal agent for funding from Prevent Child Abuse Kentucky to help support parenting education sessions with some presenter stipends, child care and meals.

Results

During the period of October 1, 2008 through September 30, 2009, a total of thirty four (34) parenting classes were presented. There was a total duplicated count of 322 participants (99 children, 190 mothers and 33 fathers). Follow up and tracking of families will be conducted to determine their success in reuniting with their children as a result of their participation in this intensive parent education program.

4. Associated Knowledge Areas

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

Outcome #7

1. Outcome Measures

Reported interest in science career Successful completion of the program

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

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

African American students are under represented in science and technology fields. In order to increase number of students interested in careers in animal science and veterinary medicine Kentucky State University's Land Grant Program partnered with the Animal Plant and Health Inspection Service and the National Civil Rights Leadership to offer the AgDiscovery program.

What has been done

KSU hosted a 2 weeks residential program to designed to expose sixteen participants to the skills and techniques related to various careers in animal science and veterinary medicine. APHIS has funded the program with the intention of highlighting the careers currently and projected to be available within the agency as part of a nationwide effort to draw future scientistS to APHIS. To ensure the successful completion of the program goals, the curriculum of the program is intended to give the participants a literal representation of careers within Animal Science and Veterinary Medicine. The participants are also presented with opportunities for personal development and cultural enrichment. The students experience cultural enrichment along with academic sessions were to increase each students awareness of their individual strengths and talents and to develop an additional appreciation for the uniqueness of cultures and their contributions to society.

Results

The AgDISCOVERY program provides educational and personal development opportunities of immense value. One example, a program participant, 12 year old female, began as a shy and timid girl. While she had a strong interest in becoming a veterinarian, this was her first time being away from home. From the beginning she was very uncomfortable. She kept to herself; she did not interact with the staff or other participants of the program. On occasion, she would ask how long our activities were going to last; she wanted to go to the dorm and call home. To address her needs we provided encouragement and special attention during meals and free time. After three days this young girl exhibited marked changes in physical and social behavior. She was able to develop academically, socially and personally. After overcoming her initial challenges, she was able to focus more of her attention on the educational components of the program. Now she is closer to reaching her career goal of being a Veterinarian.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

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

V(A). Planned Program (Summary)**Program # 2****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
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	65%	98%	0%	0%
903	Communication, Education, and Information Delivery	35%	2%	0%	0%
Total		100%	100%	0%	0%

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	77.0	0.0	1.0	0.0
Actual	77.0	0.5	0.0	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
968068	42038	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
8968841	42038	0	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, district boards, extension homemaker organizations and 4-H programs.

4-H certification programs including livestock volunteer certification, equine certification, master volunteer in clothing construction, master volunteer in foods, and shooting sports volunteers

Youth Issues Conference, a four-day teen retreat, focusing on leadership development and community service projects

Agricultural Leadership Program

4-H Club Handbook serves as a guide for 4-Hers, volunteer leaders, and agents in organizing the 4-H program

Kentucky Forestry Leadership Program

4-H Step Up to Leadership curriculum was completed by 11,106 youth in 76 counties

Extension specialists coordinated community visioning processes and the development of community plans

Researchers explored the nature, causes and consequences of change within farm families and farm-dependent communities.

Kentucky Entrepreneurial Coaches Institute provided training for individuals who then mentor future entrepreneurs.

Business Retention and Expansion Program is a community-based research project in which the community determines the needs of existing businesses so as to retain them.

UK partners in the "Engaging Youth Serving Communities" program that stresses youth and adults working together to promote community change.

Clothing construction was taught to 108 Master Clothing Volunteers

Extension facilitates many community coalitions that sponsor community activities such as health fairs, Five-a-Day nutrition programs, Backpack for Hunger, Workplace Wellness, senior day cares, and day camps.

KSU's CASS (Cooperative Association of States for Scholarships) program's 19 students participated in more than 36 hours of Leadership Plenty training. Students planned and conducted community and economic development projects throughout central KY and later in support of development in their home countries in Central America, Mexico and the Caribbean.

2. Brief description of the target audience

General public

Officers of 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.

Local officials

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	500000	150000	264000	0
Actual	551144	386920	312359	158038

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	3	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Published research journal articles

Year	Target	Actual
2009	3	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
2009	38000	65371

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Kentucky Forest Leadership Program began over 50 years ago as a way to expose high school students to the field of forestry and forest management as career opportunities. In recent years, the focus has shifted somewhat due to the increased interest in environmental issues and the fact that more of the applicants come from urban areas.

What has been done

The Kentucky Forest Leadership Program is a weeklong experience for 30 youth that concentrates on forest management and environmental conservation. Students get exposed to a variety of careers such as forestry, civil engineering, entomology, soil science, wildlife management, habitat assessment, and water quality. In addition, the program gives students a chance to learn and think creatively, make decisions, set goals, function as a team, and practice communication skills. The program is conducted at the 4-H Education Center in a forested setting so there are ample opportunities for hands-on learning experiences.

Results

In FY09, 30 students participated in the leadership program. They participated in training sessions on such topics as forestry measurement, insects and diseases, fire management, tree identification, soil nutrients and structure, wildlife habitat, water quality assessment, environmental protection, and wood products production. The group studied environmental issues and developed their leadership skills through the process of formulating an environmental management plan for a specific problem and then presenting that plan. Participants found the experience to be "life-changing." Many were re-evaluating their career choices and former participants enrolled in forestry programs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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
2009	53000	65042

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Youth in 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

The 4-H program has utilized the "Step Up to Leadership" curriculum. This program teaches leadership, teamwork, decision making, public speaking, and communication. This program has been conducted in 76 counties with 11,106 youth.

Results

As a result of the program, 3255 youth serve in leadership roles by leading club meetings; 3843 youth planned, implemented, and evaluated community service projects; 81% serve on advisory committees; 75% serve as mentors for younger youth; and 64% report working together with adults to address community issues.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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
2009	20000	28533

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. They strategically set aside a portion of the funds from the Master Tobacco Settlement to help communities in tobacco-dependent regions adjust to changes in the tobacco sector, encourage agricultural diversification, and the formation of new enterprises.

What has been done

The Kentucky Entrepreneurial Coaches Institute is designed to encourage economic diversification in these tobacco- dependent counties and focuses on training community volunteers to serve as coaches or mentors for new entrepreneurs in the region. The KECI is structured as a 16 month program. The program consists of seven workshops which include an opportunity for international travel to learn about entrepreneurship development in a different cultural setting. Each class has approximately 30 participants and each person selected for the program receives a fellowship covering the bulk of the cost of the sessions.

Results

Fifty-eight individuals have either graduated or are in training. The fellows have been actively involved in building their own skills and, in turn, using them to create a culture of entrepreneurship within the state. As a result of KECI graduates: 94 new businesses have been started, 57 businesses have expanded, 131 new jobs have been created, \$3 million in new grants have been stimulated, alumni have spearheaded visioning/strategic planning in 3 counties, and youth entrepreneurship programs have been developed. Long term impacts of this program show 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
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
903	Communication, Education, and Information Delivery

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

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

1. Evaluation Studies Planned

- Retrospective (post program)

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 3

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%	0%	1%
502	New and Improved Food Products	0%	0%	20%	0%
504	Home and Commercial Food Service	0%	15%	0%	0%
702	Requirements and Function of Nutrients and Other Food Components	0%	15%	25%	34%
703	Nutrition Education and Behavior	96%	24%	0%	26%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	0%	5%	0%	20%
721	Insects and Other Pests Affecting Humans	0%	5%	25%	0%
722	Zoonotic Diseases and Parasites Affecting Humans	0%	0%	10%	0%
723	Hazards to Human Health and Safety	0%	10%	10%	0%
724	Healthy Lifestyle	4%	26%	10%	19%
Total		100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	100.0	2.0	1.0	11.0
Actual	98.4	0.4	5.4	10.3

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1219322	33263	213634	811643
1862 Matching	1890 Matching	1862 Matching	1890 Matching
11296632	33263	1191496	811643
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 conducted programs with and for clientele related to diet, health, weight loss, and physical activity. Programs included volunteer training, health fairs, Extension Homemaker leader lessons, and safe night programs.

Partnered with 2,145 coalitions to address issues impacting the lives of Kentuckians.

UK faculty revealed new information on the mechanisms involved in dietary antioxidant mediation of free radical development and their implications for use in improving human health.

Entomology researchers have found promising treatments for treating bed bug infestations using powdered insecticides and enzyme inhibitors used in conjunction with traditional pesticides.

UK researchers are determining the influence of dietary and environmental factors on nutrient requirements

KSU researchers are examining food consumption and physical activity as they relate to childhood obesity, and the effects of vegetables on osteoporosis

KSU's "Ready 101: A Kentucky Approach to Preparing Communities for an Infectious Disease Outbreak" educated Kentuckians on factors contributing to mass outbreaks of disease and what can be done to minimize their impact. Phase two reached out to underserved populations, rural residents, low-income communities, etc. A mobile unit provided materials in English and Spanish.

UK researchers studied the economic, environmental, safety, and health impacts of nanotechnology in agricultural, food, and biological systems

The programs "Small Steps to Health and Wealth" and "Get Moving Kentucky" combined weight management and exercise.

UK studies confirmed that enzyme hydrolyzed proteins can also function as antioxidants.

"Second Sunday," an Extension led effort, closed off streets so people could increase their physical activity by walking, biking, and skateboarding in 101 counties

UK researchers used sensors to explore acoustic emissions generated by bacteria to fingerprint different strains of bacteria

Researchers found that shoppers desire more local food in the marketplace

UK studies found that PCBs likely do not exert their tumor promoting activities in the liver by activating PPAR-alpha or by increasing Kupffer cell activity.

"Weight: The Reality Series" an Extension weight reduction program, was offered in 61 counties with 1,829 participants.

EFNEP taught nutrition to 6,043 low-income families

KSU coordinated a Community Garden Project that provided Hispanic families with produce and the opportunity to preserve food for the winter months.

Fruit and vegetable consumption of the Food Stamp Family Nutrition Education Program participants increased from 3.2 to 4.5 servings per day.

The Rural Price Project examined geographic differences in the cost of living.

UK researchers used the BOD POD to assess body composition of individuals in weight-loss programs.

2. Brief description of the target audience

Extension agents
Community agencies
Volunteer leaders
Parents
Grandparents
General public
Public housing residents
Children
Teens

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	800000	75000	100000	0
Actual	522866	167601	283845	273454

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	10	
Actual	0	18	17

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Published research journal articles

Year	Target	Actual
2009	10	16

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

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	85000	113668

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One of the reasons why Kentuckians are obese is the lack of adequate exercise through physical activity. We are accustomed to riding in a car rather than walking and sitting in front of the TV or computer rather than getting outside and exercising. The need for more physical activity needs to be re-emphasized and our communities need to accommodate that need.

What has been done

On the second Sunday of October, the program "Second Sunday" was conducted in 101 counties. It is one day set aside to raise awareness of the need for more physical activity. Local officials closed roads and streets so they could be used for walking, running, bicycling, skateboarding, and games of all types.

Results

Over 20,000 persons participated in physical activities on this one day. However, the longer term goal is to make it more than one day a year and to raise the awareness of the need for more physical activity. It has also caused local officials to examine the built environments of sidewalks, parks, walking and biking trails, etc. to determine what can be done to encourage more physical activity on a regular basis.

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

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	40000	50796

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Kentucky is the fourth most obese state in the nation and the situation is not getting any better. The two factors that explain a good share of the reason for Kentuckians being overweight are the food that is being consumed and the low level of physical activity. Both of these factors are under the control of the individual.

What has been done

"Weight - the Reality Series" is a 10-week weight-reduction program was developed to change the behavior of individuals concerning their food consumption practices and their habits in terms of level of physical activity. In addition to the educational sessions, agents are working to establish organized activities and support groups to insure long term success.

Results

In the past year, 1,829 individuals in 61 counties participated in the "Weight - the Reality Series" program.

*722 succeeded in losing at least 5% of their initial body weight.

*The average amount of weight lost was 7 pounds.

*739 reduced their waist circumference by at least 2 inches.

*276 have maintained their weight loss after 3 months.

4. Associated Knowledge Areas

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

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
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	26000	34092

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Because of a high percentage of individuals who do not visit a health professional on a regular basis, many health conditions such as high blood pressure, diabetes and cancer go undetected.

What has been done

Extension in collaboration with health providers and public agencies organize health fairs or screenings for specific segments of the population. In addition to Extension, such events usually involve the county health department, hospitals, clinics, local physicians, home health care professionals, nurses, and nurse practitioners. Most have been organized within a local community and sometimes in combination with a festival or fair.

Results

Examples of such health screenings are: the Gallatin County "Health and Safe Community" health fair that attracted over 100 participants, the third annual men's health fair health in Jessamine County, the cancer awareness educational program in Powell County that resulted in 184 individuals being screened for cancer, and the 10th annual Jackson County Women's Health Fair.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
721	Insects and Other Pests Affecting Humans
722	Zoonotic Diseases and Parasites Affecting Humans
724	Healthy Lifestyle

Outcome #4

1. Outcome 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
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	26000	29992

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Household chemicals, farm implements, ATVs, electricity, tornados, floods, school buses, and fire can all pose safety concerns for children, as well as for adults. Not knowing how to deal with such hazards, can result in injury or even death.

What has been done

Extension in collaboration with other organizations and agencies such as hospitals, Emergency Medical Services, farm implement dealers, ATV sales representatives, electrical contractors, and health departments have sponsored safety days for children and adults. Some of these events have been conducted with the entire school population and others have been organized as family events in the evening or on the weekend.

Results

Examples of such safety days are the Clinton County "Back to School Bash" for 1,200 children that taught household safety and poison control. The learned the dangers of hazardous household chemicals, misleading packaging, the dangers of prescription drugs, antifreeze, and motor oil. Bourbon County partnered with the Family Resource Centers to conduct an educational program on safety and health for over 300 m4th grade students on ATV, fire, school bus, electrical, food and pet safety. And Logan County conducted a farm and home safety day camp for 120 youth.

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety

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
2009	25000	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Note: This outcome was moved to new Planned Program "Food Safety."

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
502	New and Improved Food Products
504	Home and Commercial Food Service
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety

V(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(I). 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

V(A). Planned Program (Summary)**Program # 4****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
503	Quality Maintenance in Storing and Marketing Food Products	0%	0%	2%	0%
601	Economics of Agricultural Production and Farm Management	8%	13%	14%	0%
602	Business Management, Finance, and Taxation	0%	0%	17%	0%
603	Market Economics	0%	0%	11%	0%
604	Marketing and Distribution Practices	6%	1%	6%	100%
605	Natural Resource and Environmental Economics	0%	0%	3%	0%
606	International Trade and Development	0%	0%	11%	0%
607	Consumer Economics	0%	0%	5%	0%
608	Community Resource Planning and Development	86%	86%	17%	0%
610	Domestic Policy Analysis	0%	0%	14%	0%
	Total	100%	100%	100%	100%

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	25.0	2.5	3.7	2.8
Actual	29.2	1.1	4.7	1.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
362102	83508	413534	76691
1862 Matching	1890 Matching	1862 Matching	1890 Matching
3354757	83508	1461668	76691
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

Research has improved the understanding of consumer food preferences that support locally produced products
Extension has delivered educational programming and workshops on topics such as understanding community dynamics, asset analysis, business planning, marketing, and hospitality management.

Research projects on the impact of agricultural trade policies agricultural exports

UK Research on changes in agricultural and rural finance markets helped improve lenders' understanding of credit risks

Cooperative Extension facilitated the establishment of networks of those engaged in agritourism to enhance sales, marketing and buying

Researchers measured the impacts of environmental policies, competition policies, and food safety standards on food exports.

KSU developed the eCommerce training series to assist small business owners in how to use the internet to support their businesses.

Researchers are working to find and develop appropriate tools for small-scale agricultural enterprises.

UK researchers investigated the compensation private land owners required to open their land to the public.

Marketmaker, a web-based link between producers, processors, and consumers, is a way for producers to increase their income and add value to products.

KSU coordinated a series of small business workshops on how to own and expand a business.

The third county Extension Agents for the Arts positions was established to celebrate the arts through local arts councils, art festivals, music festivals, and craft festivals.

UK researchers are examining the role of labor market policy on the supply and demand of workers in rural areas.

KSU worked with local chamber, merchant association, and economic development authority to design and conduct survey of 48 local entrepreneurs. The results are being used as a baseline for future entrepreneurial development activities.

The 4-H American Private Enterprise System program helps youth understand the American private enterprise system.

UK and KSU collaborate on the Business Retention and Expansion program which assists communities in keeping existing businesses in their communities.

UK researchers are studying the link between social capital and economic growth

KSU, in collaboration with the Small Business Development Center at Murray State University, conducted the Hopkinsville Entrepreneurs Advantage Training Program.

The UK Department of Landscape Architecture works closely with Kentucky communities to improve land use planning. Nontraditional advisory groups in the areas of community and economic development, tourism, agritourism, and the arts have been formed.

KSU's Hispanic Initiative provided Spanish lessons to 44 children as a cultural bridge to develop an appreciation of the Latino culture.

2. Brief description of the target audience

County extension agents

Farm operators

Lending institutions

Public policy makers

High school youth

Agritourism providers

Active and potential community leaders

Community leaders and elected officials

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	275500	75000	14500	0
Actual	304713	233550	129631	100093

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	20	
Actual	0	21	21

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Published research journal articles

Year	Target	Actual
2009	20	21

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
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	20000	28976

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Research has shown that despite the increase in youth volunteerism within communities, and service learning opportunities in schools, the challenge remains in getting more youth civically engaged. Programs that are available to youth during structured out-of-school time can provide youth with the chance to help develop the skills and confidence to make a contribution in their communities.

What has been done

This marks the 7th year for youth and adults participating in the Engaging Youth, Serving Communities (EYSC) initiative. Monroe County's backpack program is providing snacks and toiletries to children and their families. Lyon County worked on their drug awareness program until the school board decided not to pursue the matter further. Therefore, they have also decided to institute a backpack program. Todd County continues to target issues related to its local parks in hopes of providing more recreational opportunities for youth and their families. The goals remain the same for each county - to promote leadership skills among youth that are transferable, thus enabling them to serve their communities in various capacities.

Results

As a result of this project, youth have developed social competencies, a stronger sense of community and demonstrated more confidence in their leadership, communication and decision-making skills. Todd County identified land near downtown and converted it into a playground and walking trail. Lyon County youth is working with the family resource center to provide food for children in need. Monroe County has received donations from local organizations and businesses and has recruited a number of adult groups to serve as volunteers. The backpack project has become a signature program in the county and viewed as one that should be a long-term community service initiative. A coalition of community churches has decided to take over the Monroe County backpack program as its major project.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

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
2009	2100	2394

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 and joint marketing efforts for increased profitability was targeted by state and regional agritourism networks.

What has been done

Extension Agents initiated and facilitated agritourism leadership discussions resulting in the establishment of four Regional Agritourism Organizations. One of the first items of business was publicity and signage on public highways. Changes were made in highway signage regulations that allowed for for a red barn logo designating an agritourism enterprises, hours of operation, and location.

Results

As a result of agritourism businesses working as coalitions:

- *27 businesses increased sales due to cross marketing with other coalition members
- *26 businesses utilized electronic marketing and linked it with other sites
- *31 businesses developed relationships with county, regional and state agencies
- *26 businesses participated in county, regional or state marketing campaigns

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #3

1. Outcome Measures

Number of people who are ready to enter the workforce.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	5000	10687

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 of how to stretch dollars to 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

Over 12,000 Kentucky kids take part in the Reality Store program each year. A lot of youth realize for the first time that there is a connection between the careers 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

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
2009	30000	24418

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

An important factor in limiting the sales of locally-produced products is the lack of information about possible buyers. What is needed is a communication system that links buyers with suppliers and in the process promotes and enhances the local food economy.

What has been done

An innovative 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 more quickly and easier. Sellers use this interactive tool to identify potential markets and find processors for their goods. 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 the fourth state to become part of this national program developed by University of Illinois Extension.

Results

In 2009, Kentucky MarketMaker received more than 25,000 unique visitors and almost 1 million site hits, representing more than 20% of the national network's total web activity. In its third year, the Kentucky database lists more than 400 producers and all of the state's 137 farmer's markets. Researchers and Extension agents rely on MarketMaker to answer inquiries about local food sources from restaurants and individuals.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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

1. Evaluation Studies Planned

- After Only (post program)

Evaluation Results

Key Items of Evaluation

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

Global Food Security and Hunger

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	1%	0%	0%	0%
201	Plant Genome, Genetics, and Genetic Mechanisms	0%	0%	10%	0%
202	Plant Genetic Resources	0%	0%	5%	0%
205	Plant Management Systems	53%	37%	15%	18%
211	Insects, Mites, and Other Arthropods Affecting Plants	0%	0%	10%	9%
212	Pathogens and Nematodes Affecting Plants	1%	0%	10%	0%
301	Reproductive Performance of Animals	0%	0%	10%	0%
302	Nutrient Utilization in Animals	0%	0%	10%	0%
303	Genetic Improvement of Animals	0%	0%	10%	0%
307	Animal Management Systems	37%	41%	10%	53%
311	Animal Diseases	0%	0%	10%	0%
401	Structures, Facilities, and General Purpose Farm Supplies	1%	0%	0%	0%
402	Engineering Systems and Equipment	0%	0%	0%	10%
403	Waste Disposal, Recycling, and Reuse	0%	0%	0%	5%
601	Economics of Agricultural Production and Farm Management	0%	22%	0%	5%
604	Marketing and Distribution Practices	7%	0%	0%	0%
	Total	100%	100%	100%	100%

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	145.0	14.5	45.3	13.5
Actual	184.3	27.0	55.1	17.4

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

Extension		Research	
Smith-Lever 3b & 3c 2298237	1890 Extension 2116358	Hatch 2898589	Evans-Allen 1370846
1862 Matching 21292440	1890 Matching 2116358	1862 Matching 16891554	1890 Matching 1370846
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**

Kentucky's national leadership role in eXtension with HorseQuest, DAIReNET, and GardenData Horse College was conducted in 30 counties with 300 horse owners

KSU's "Third Thursday" program emphasized parasite control, forage management, nutrition and business management in goats

UK Meat Cutting School for direct marketers, home-based businesses, supermarkets, and producers

Cattle Genetics Improvement Program to improve beef herd genetics

Study of carcass quality, yield, maternal ability, and susceptibility to parasites with hair versus wool sheep

Spider mite resistance in tomatoes Study of mineral mobilization from males to foals in late gestation and early lactation

Kentucky AIM Program encourages the formation of purchasing alliances

Cow College provides in-depth training on beef management practices

KSU Small Farm Program with one-on-one assistance

FSA Borrower Training Workshop as a requirement for FHA loans

Weed Management Team develops sustainable weed management strategies

KSU's bee keeping and honey production program

Evaluation of new grape cultivars

KSU horticulturalist launched an education series on growing your own food; it was well received by first time gardeners

Animal Health Risk Outlook website Dairy Beef Quality Assurance Program and Certification

Master Grazer program conducted in 37 counties

KSU now recommends pawpaw rootstock based on trial results; 2,700 have planted the recommended cultivars

Horticultural researchers examining rootstock impacts on fruit trees

Horse and beef pasture weed control research

KSU researchers are conducting trials to determine the economics and digestibility of feed ingredients in tilapia production

New Crop Opportunities Center

Research the etiologic relationship between bacterial entophytes of forages and placentitis-induced pregnancy losses in horses, cattle and goats

Characterization of a plant enzyme has resulted in the development of new approaches for the control of weeds through the use of peptide deformylase inhibitors and the bioengineering of plants resistant to them

UK research is the first to reveal clues to the role of the hormone glucagon-like peptide-2 in carbohydrate utilization in ruminants

Dissecting defense signaling pathways in soybean resulted in new a defense against *Phytophthora* and soybean mosaic virus.

A new tool was developed for identifying host genes that can serve as targets for engineering virus resistance in crops.

The identification of a natural predator of the coffee berry borer may lead to a new way to control them

Support of 134 Farmers Markets in 93 counties

KSU partnered with the KY Department of Agriculture to produce a searchable on-line database for organic producers

KSU researchers are examining the protective capacity of certain dietary phytochemicals in combating DNA damage

KSU researchers surveyed 280 visitors at the KY State Fair on their knowlwdge and attitudes regarding vegetable consumption

2. Brief description of the target audience

Beef producers, dairy producers, horticultural producers, limited resource producers, extension agents, farm operators, market members, meat cutters, goat and sheep producers, homeowners, FHA borrowers, aquaculture producers, consumers, community and farm leaders, poultry farmers, hay producers

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	1270000	400000	39300	0
Actual	1524440	1505831	132449	130942

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

Patent Applications Submitted

Year: 2009
 Plan: 6
 Actual: 4

Patents listed

Patent numbers: 7,528,232
 7,524,946
 7,445,923
 7,405,671

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	20	164	
Actual	20	129	149

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Graduate research assistants engaged in research

Year	Target	Actual
2009	25	25

Output #2

Output Measure

- Published research journal articles

Year	Target	Actual
2009	150	129

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 Grain Academy and Master Grazer Programs receiving their certification.
5	Number of individuals reporting changes in knowledge, opinions, skills and aspirations related to impact of public policies on agriculture and the environment.
6	Number of producers reporting changes in forage preparation and grazing practices.
7	Number of agents and producers reporting changes in forage preparation and grazing practices.

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
2009	19000	18437

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Grain crops have overtaken tobacco as the most important crop in Kentucky. With more demand for grain crops for energy production, there is increasing potential for improved profits for Kentucky producers.

What has been done

Twenty-five producers with over 35,000 areas of corn, soybeans, and wheat attended the Grain Crops Academy. The goal was to improve profitability and sustainability through a better understanding of the science of grain crops production.

Results

- As a result of participating in the program,
- *100% said the information helped in their farming operation
- *90% said it provided them the tools for better decisions on hybrid seed selection
- *90% said they planned to make changes in their production practices

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
307	Animal 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
2009	24000000	21083799

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Grower and Direct Marketer Good Agricultural Practices Training Program was developed to be proactive in light of the national food microbial contamination scare. The training was designed to help Kentucky producers and direct marketers improve their produce handling practices and reduce produce microbial contamination.

What has been done

The Good Agricultural Practices (GAP) training program was developed through a cooperative effort between the U.K. Horticulture Department, Kentucky Department of Agriculture and the Kentucky Department of Public Health. Five GAP training sessions were held to instruct Extension Agents producers and vendors. Eighty seven trainers were certified and numerous producer training sessions were held at the county level by Extension agents.

Results

Good Agricultural Practices training certificates were issued to 1,760 individuals through this program. Producers now have a working knowledge of how contamination takes place and the procedures needed to improve the safety of their produce. Sampling certificates were issued to 1,019 vendors after passing a written test. These certificates are required by the Department of Public Health to sample raw agricultural products at 134 Kentucky farmers' markets and Kentucky Farm Bureau Certified Roadside Markets. Producers selling at farmers markets and Consumer Supported Agricultural (CSA) growers comprised the primary audience. Kentucky growers were able to capably discuss GAP procedures implemented on their farms with buyers, significantly improving produce sales. The ability to sample produce has also substantially improved vendor produce sales and increased income.
KA

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
604	Marketing and Distribution Practices

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
2009	23000	27709

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

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. Since the decline of the tobacco industry in Kentucky agricultural producers have been looking for commodities to replace tobacco income.

What has been done

Through the Allied Inputs and Marketing Program (AIM), small and medium sized livestock producers are able to take advantage of economies of size in production and marketing. Currently, 2 alliances with 157 producers who own 8,900 head of livestock are participating.

Results

Production costs were reduced 40% by bulk purchases, or about \$45 per cow this year. Feeder calf sales have been \$5-\$12 / cwt. higher than other cattle sold in Kentucky that same day, thus increasing profits for these producers by approximately \$28 per head. That results in a net increase of \$73 more per head, or over \$650,000 for all of the participating producers.

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 Grain Academy and Master Grazer Programs 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
2009	150	423

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Kentucky Master Grazer Program is an integral part of the comprehensive effort underway to replace diminishing tobacco revenue by improving Kentucky's expanding beef forage operations.

What has been done

The program consists of multiple 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 Grazer program was conducted in 37 counties with 423 producers completing the program and making production improvements.

- 256 producers implemented or improved rotational grazing practices
- 221 extended the grazing season thereby decreasing the amount of hay fed
- 170 provided water in each grazing paddock
- 228 increased the number of paddocks
- 274 rotated pastures with legumes
- 317 improved management practices of animal grazing (fed minerals, controlled parasites, etc.)
- 194 seeded improved forage varieties
- 483 applied lime and fertilizer according to soil tests

4. Associated Knowledge Areas

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

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
2009	20000	24288

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 Conservation Reserve Program (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

The Department of Agricultural Economics conducts professional in service training for tax preparers, CPAs, farmers, attorneys, and related persons on new federal income tax law, Kentucky state tax provisions, and ethics. This is the largest tax education program in Kentucky and one of the ten largest in the U.S.

Results

During the past year, there were 1,476 participants at 15 different two day seminars, 71 participants at three Beginner Tax schools, and 116 participants at Ethics Seminars. The CEUs are recognized by the CPA Society, the KY State Bar, and the Department of Insurance. There were 24,416 hours of CEUs awarded. Particular attention is paid to the tax handling of Tobacco Buyout payments, conservation payments, drought induced livestock sales and related topics. Participants' evaluations indicate overwhelming approval of content and instruction and repeat participation is 90%.

4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices

Outcome #6**1. Outcome Measures**

Number of producers reporting changes in forage preparation and grazing practices.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	423

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

Kentucky ranks seventh in number of goats with 74,000 head. Meat and dairy goat production is the fastest growing livestock sector in the state. The biggest growth is in meat goats, however there is new interest in dairy goats for milk production and the processing of cheese. The majority of new goat producers do not have agricultural experience.

What has been done

Trainings in all aspects of goat production were delivered as webinars over Centra to four sites. This is the first use of distance learning with goat producers and it was received very well. During the past year, feeding trials and marketing research through Hispanic grocery stores were conducted. Another field trial was the use of goats for purposes of vegetative management on covered landfills. The city did not have to mow the former landfills and the producers received pasture for their goats at no cost. During the past year, a farmer directed elite replacement doe sale has been organized. It is anticipated that 15 producers will consign does to the sale and at least 25 producers will purchase the animals.

Results

Over 180 producers attended the 6-hour Centra training sessions. For a distance learning approach, the evaluations of the session were very positive. This method saved the time and expense of the trainers. The feeding trials, marketing research, and vegetation management project are on-going. The elite replacement doe sale is scheduled for March, 2010.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships

Outcome #7

1. Outcome Measures

Number of agents and producers reporting changes in forage preparation and grazing practices.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

It has been estimated that there are over 135,000 ponds in KY. These ponds are used for a variety of purposes including: drinking water, irrigation, livestock watering, and recreation. Every spring and summer many days and thousands of dollars are spent attempting to control aquatic weed growth in these ponds. Uncontrolled, aquatic weeds can prevent agricultural and recreational use of these ponds causing loss of income and recreational opportunities. Failure to properly identify and treat aquatic weeds often leads to incorrect herbicide application and ineffective treatments. Furthermore, no training programs exist within a reasonable distance of KY residents to update certification for pesticide applicators permits.

What has been done

Two educational programs were developed for Aquatic Weed Identification and Algae control training. Since January 2008, these two programs have been used for 6 statewide In service training programs reaching 100 attendees

The Aquatic Weed Identification training sessions were used to further expand the use of the internet/e mail for aquatic weed identification by illustrating the type photographs that are effective for on line weed identification. The Aquatic Weed Identification program/presentation was also placed on my Aquaculture Information Website to allow broader access by county agents, producers and the public.

Results

The Aquatic Weed Identification show/program was downloaded 148 times over 3 months. It is anticipated that e mail identifications of aquatic weeds using digital photos and that down loads of the on line Aquatic Weed ID program/presentation will increase significantly by the summer of 2009. 97% of those who attended the training programs either agreed or strongly agreed that they had gained knowledge and skills about the topics presented (53% strongly agreed). 94% of those who attended either agreed or strongly agreed that they will use what they learned in their businesses, county program or on their farms (56% strongly agreed).

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

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

V(A). Planned Program (Summary)**Program # 6****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
101	Appraisal of Soil Resources	0%	0%	10%	0%
102	Soil, Plant, Water, Nutrient Relationships	0%	0%	35%	34%
112	Watershed Protection and Management	1%	0%	15%	29%
123	Management and Sustainability of Forest Resources	19%	74%	0%	0%
131	Alternative Uses of Land	0%	0%	5%	0%
133	Pollution Prevention and Mitigation	0%	0%	30%	0%
205	Plant Management Systems	16%	14%	0%	0%
206	Basic Plant Biology	0%	0%	5%	0%
216	Integrated Pest Management Systems	0%	0%	0%	19%
403	Waste Disposal, Recycling, and Reuse	10%	2%	0%	0%
601	Economics of Agricultural Production and Farm Management	0%	0%	0%	18%
605	Natural Resource and Environmental Economics	54%	10%	0%	0%
Total		100%	100%	100%	100%

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	25.0	0.0	7.3	8.5
Actual	35.3	0.2	12.4	11.9

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

Extension		Research	
Smith-Lever 3b & 3c 443390	1890 Extension 12140	Hatch 669609	Evans-Allen 936266
1862 Matching 4107866	1890 Matching 12140	1862 Matching 3423630	1890 Matching 936266
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:

KSU's Small Farm Program assisted 613 families increase their incomes an average of \$4,500, \$5,500 for minority farmers.

Master Gardener Program conducted in 40 Kentucky counties KSU researchers are examining the effects of soil conditioners and constructed wetlands on water quality.

Master Logger program, focusing on best management practices, safety, laws and regulations, trained 194 new loggers this year. Research is being conducted to develop streamside management zone BMPs that are appropriate for the Central Appalachian Region.

Woodlot owner education program moved to a multi-state approach and reached 160 woodlot owners

Through the collaboration of KU and the Kentucky Department of Fish and Wildlife Resources, Kentucky's Rocky Mountain Elk population has grown to 10,000.

Agricultural Engineering is working to reduce the cost of heating, ventilating and lighting Kentucky's 3,500 poultry houses through energy audits.

KSU horticulturalist instructed homeowners in how to convert utilize sodded areas into vegetable production. One CSA (Community Supported Agriculture) was established with 25 subscribers.

Urban Integrated Pest Management programs conduct research and educational programs to stem the contamination of ground water from fertilizer and pesticide usage by homeowners and lawn care companies.

Multidisciplinary research advanced the ability to use spatial technologies for precision application of nutrient amendments to reduce losses to the environment.

Post-mine land reforestation research results are being used to re-educate mining companies and regulatory authorities.

UK Researchers participating in multi-state projects to tested swine and poultry diets that reduce nutrient (N & P) excretion, improve air quality and odor reduction, and use bioprocessing co-products from ethanol production.

KSU's Organic Agriculture Working educates growers and extension agents about organic standards and organic production techniques

Risks from arsenic and antibiotics in poultry litter were assessed by UK researchers through microbial ecology studies of manure-amended soils.

Forest product and biomass research and education have resulted in a reduction of fines in oriented strandboard (OSB) production.

Strategies for improving N use efficiencies and reducing fertilizer applications were developed to reduce environmental losses of nutrients while maintaining productivity in corn and wheat.

In collaboration with E-on/U.S., a diversified energy services company, and the U.S. Forest Service, UK has established a planting of native and non-native trees that are appropriate to plant under or near power lines.

Water Pioneers program trained 29 high school students to return to their communities to conduct water quality programs UK researchers inject tracers into the surface above caves and then observe its movement into the ground water.

Research is being conducted on a swine finishing facility where the manure will be composed within the facility.

KSU horticulturalist worked with homeowners and local government to save storm-damaged trees.

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
 Woodlot owners
 Farm owners and operators
 Homeowners

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	204000	200000	68000	0
Actual	325744	451563	156719	232623

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

Patent Applications Submitted

Year: 2009
 Plan: 1
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	100	
Actual	0	24	24

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Graduate student research assistants

Year	Target	Actual
2009	10	8

Output #2

Output Measure

- Published research journal articles

Year	Target	Actual
2009	90	24

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 conservation practices are used.
4	Number of individuals adopting one or more practices related to conserving, sustaining and/or protecting soil resources.
5	Number of Farms Certified as Organic

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
2009	20000	24650

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. The reasons are that reclamation practices tended to inhibit tree growth due to: 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
2009	3500	4121

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Forests cover nearly half of Kentucky's landscape and are mostly privately owned. These forests provide an estimated economic impact of more than \$8 billion annually, more than 35,000 jobs, a wealth of recreational opportunities, clean water and a host of other benefits. However, the woodland owners of Kentucky generally know little about forestry and the benefits of forest management.

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 three-segment educational program focusing on woodland management, woodland economics, and woodland wildlife and recreation. The University of Kentucky co- sponsors this program 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.

WOSC was held repeated three times this past year. More than 160 woodland owners representing 46,723 acres attended the average woodland owner owned 335 acres. Participants indicated they would use information from the program on a total 53,665 acres.

Results

As a result of this program, participants have reported increased income from their properties through on farm enterprises. 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. It has also resulted in a stronger voice for the state's woodland owners and a greater appreciation and awareness of Kentucky's forests.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	600000	798576

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

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
2009	20000	30636

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 order to teach youth the importance of water in our state, the Water Pioneers program was conducted with 28 high school youth from 28 different Eastern Kentucky counties. Students learned about non-point and point pollution; chemical, physical and biological assessment techniques; and the interrelationship of water, geology, soils, forestry, wildlife, and people. After a week-long session, the "pioneers" then completed a community service project back in their home communities. They undertook such projects as promoting environmentally-friendly cleaners, hosting a tire pick-up event, writing articles for local newspapers, and lobbying for sanitary sewers.

Results

Seven months later, the Water Pioneers reported on the impact they had 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 more environmentally friendly cleaning products. 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

Outcome #5

1. Outcome Measures

Number of Farms Certified as Organic

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Kentucky's demand for organic products far outstrips its organic production. Between 2002 and 2006 sales of organic products grew steadily in Kentucky but the number of certified organic operations fell by 90% to 12. The decline was due to the loss of an in state certifier, imposition of more stringent federal organic standards, and lack

of extension information about practical techniques compatible with new national organic program standards. Growth of Kentucky's organic sector resumed at the beginning of 2006, when the Kentucky Department of Agriculture was approved as an organic certifier.

What has been done

Between October 2007 and September 2008 Kentucky State University implemented an aggressive program to educate growers and extension agents about organic standards and organic production techniques. A website highlighting work of KSU's Organic Agriculture Working group members (<http://organic.kysu.edu>) attracted 12,215 unique visitors, with web traffic increasing each quarter. KSU organized three workshops and three farm tours highlighting organic production techniques and certification requirements. KSU staff contributed to organic agriculture workshops organized by the Southern Sustainable Agriculture Working Group, the University of Kentucky, The Kentucky Fruit and Vegetable Growers Association, Louisville's Refugee Agriculture Project, and local community gardeners. Approximately 345 people attended these events. A 'Fox in the Morning' television program highlighted growth of Kentucky's organic sector and work conducted at KSU.

Results

Between October 2007 and September 2008, the number of certified organic farms in Kentucky more than doubled, from fewer than 50 to more than 100. Newly certified organic farms gained access to a growing market that commands premium prices. Relative to conventional farms, these farms will tend to use less energy, support greater biodiversity, employ more people, and generate less environmental contamination associated with fertilizer and pesticide use.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land

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 2009, 40 Kentucky counties reported offering the Master Gardener Program training 395 new

volunteers with knowledge and skills to work with Extension Agents in addressing the home and commercial horticulture needs in these communities.

In 2009, 270 new Master Gardeners were trained and 906 Extension Master Gardeners (includes persons trained in previous years) contributed 32,978 volunteer hours through workshops, meetings, community garden programs, newsletters, and in-office and on-site diagnostic efforts. The value of the volunteer time contributed to Kentucky Extension Programs by the Master Gardeners is placed at \$667,805.

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Food Safety

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	1%	0%	0%	0%
501	New and Improved Food Processing Technologies	0%	0%	42%	0%
601	Economics of Agricultural Production and Farm Management	4%	46%	0%	0%
703	Nutrition Education and Behavior	38%	1%	0%	0%
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	0%	0%	14%	0%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	0%	0%	44%	0%
724	Healthy Lifestyle	57%	53%	0%	0%
Total		100%	100%	100%	0%

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Actual	11.9	0.8	2.2	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
147797	65884	162827	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1369289	65884	714107	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

Training and certification of vendors at farmers markets to insure the cleanliness of products sold
 Training provided to home-based food processors
 Hand washing taught to children
 EFNEP and FSNEP both taught food preparation methods to ensure safe home prepared meals
 KSU conducted a class on kitchen safety covering such topics as fire hazards around the stove, checking the smoke detector, extinguishing cooking fires, using a fire extinguisher
 Improvement of optical sensors for in-line monitoring of food quality and safety parameters
 Research improving the understanding of mycotoxin biosynthesis in fungi that infest grain and identification of new genetic targets for antifungal therapies
 Elucidating the impact of diet additives in swine and cattle on pathogenic bacteria and evaluating their potential use as preventative treatments to improve food safety
 UK researchers are evaluating the effects of food safety scares on long-term economic losses.

2. Brief description of the target audience

Extension Agents
 Community agencies
 Volunteer leaders
 Parents
 Children
 General public
 Animal and grain producers
 Food processors

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual	99807	30065	67956	20299

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

Patent Applications Submitted

Year: 2009
 Plan:
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan			
Actual	0	2	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Published research journal articles

Year	Target	Actual
2009	{No Data Entered}	2

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

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	54257

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

Nationally as well as in Kentucky, there has been an increase in the incidence of illnesses and deaths due to the contamination of the food we eat. It is estimated that contaminated food cause 275,000 illnesses that cost the state more than \$480 million. It has been demonstrated that much of the problem could be eliminated, or at least reduced, through proper food handling techniques. The first step in reducing the incidence is to increase the knowledge and understanding of the risks and the ways to prevent contamination.

What has been done

Programs such as EFNEP, FSNEP, as well as those targeted to children, have stressed proper food handling techniques. Programs have covered such topics as proper hand washing, washing of fresh fruits and vegetables, cleanliness of the food preparation area, reducing cross contamination, proper thawing of frozen foods, etc.

Results

These programs have a good record of increasing the knowledge of program participants concerning the proper procedures to follow. After participation in the training, most participants learn the importance of cleanliness in food preparation, proper storage, and cooking times. Children, especially, learn proper hand washing procedures.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #2

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	35927

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In order to insure a safe food source, it is necessary to protect the food from contamination from the time it is grown, harvested, processed and delivered to the consumer. It can be contaminated any place along the way.

What has been done

In collaboration with the Kentucky Department of Agriculture, the Grower and Direct Marketer Agricultural Practices Training Program (GAP) was developed to provide training in produce handling practices in order to reduce microbial contamination. Certificates were issued after the attendees passed a test of the program content.

Results

Eighty-seven trainers have now been certified and 1,760 producers were trained in 2009. These producers now have a working knowledge of how contamination occurs and the procedures needed to improve the safety of their produce. In addition, 1019 individuals passed a written test and were awarded a certificate that allowed them to offer samples of produce at farmers markets or roadside markets.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	35927

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Home-based food processors sell jams, jellies, breads, fruit pies, cakes, cookies and other prepared foods at farmers markets, roadside markets, and other retail outlets. In order to insure a safe food source, it is necessary to protect the food from contamination during the processing of the food.

What has been done

Home-Based Processing and Micro-processing training was offered at six locations during 2009 that reached 138 individuals.

Results

A total of 138 persons were trained, 46 were then certified as Home-Based Microprocessors. In a test of the participants: 100% intend to follow good manufacturing practices, 100% can safely operate a boiling bath and/or pressure canner, 98% know that clostridium botulism is the organism of concern in home canning, and 100% plan to use USDA-recommended practices in food processing.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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

1. Evaluation Studies Planned

- After Only (post program)

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Climate Change

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
121	Management of Range Resources	0%	0%	22%	0%
123	Management and Sustainability of Forest Resources	0%	0%	43%	0%
132	Weather and Climate	60%	0%	0%	0%
141	Air Resource Protection and Management	0%	0%	13%	0%
403	Waste Disposal, Recycling, and Reuse	0%	0%	22%	0%
604	Marketing and Distribution Practices	40%	0%	0%	0%
Total		100%	0%	100%	0%

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Actual	0.0	0.0	1.1	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
0	0	233301	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	547304	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

Agricultural meteorologists provided weather information 24 hours a day , 365 days a year and issued severe weather alerts

Tracked daily, weekly, monthly and annual trends on temperature and moisture levels

In collaboration with other college departments, provided advisories on spraying and drying conditions, livestock

heat stress, and drought levels

KSU reinvigorated a university-wide recycling program and hosted middle/high school students for an Environmental Fair. Students now collect recyclables regularly.

Agricultural economists provide support and training for county agents and producers in marketing strategies such as forward pricing in order to maximize returns

Initiated study on the effects of warming and changes in precipitation on the structure and function of managed grasslands

The Extension reporting system was not set up to collect information on professional FTEs, expenditures and contacts for Climate Change in FY09.

2. Brief description of the target audience

Crop farmers, livestock producers, horticultural producers, limited resource producers, Extension agents, homeowners, community and farm leaders, agribusinesses, general public

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009

Plan:

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan			
Actual	0	3	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Published research journal articles

Year	Target	Actual
2009	{No Data Entered}	3

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of producers utilizing new marketing opportunities
2	Incidences of when accurate weather information assisted producers or avoided crises

Outcome #1

1. Outcome Measures

Number of producers utilizing new marketing opportunities

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	7596

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Agricultural production is inherently a risky economic endeavor. Production quantities, demand for the commodity, disease outbreaks, foreign trade, and weather conditions in the U.S. and abroad can cause substantial price fluctuations.

What has been done

Agricultural economists have developed decision making tools to aid grain farmers in assessing and mitigating risk in the marketing of their production. Different marketing strategies have been available, but producers have been slow to embrace them. The Grain Crops Academy is an educational program that helps producers understand marketing strategies and how to implement them with their farming operation.

Results

Thirteen grain producers, who operate 30,670 acres, participated in the Grain Crops Academy this past year. As a result of the program, all of the attendees reported that they have changed the way they currently market their grain.

4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices

Outcome #2

1. Outcome Measures

Incidences of when accurate weather information assisted producers or avoided crises

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Weather-related surprises are vitally important to agricultural producers. The short term decisions can range from when to spray for insects to when to cut hay. Or weather conditions can result in catastrophic losses to crops, livestock, structures and life. The Agricultural Weather Center provides weather and climate information to prepare people for all conditions.

What has been done

The Agricultural Weather Center supplied information on temperature and moisture conditions that guide agricultural operations. However, it has also issued alerts and prepared county Extension staff to be storm-ready by providing weather radios, a disaster kit, an emergency action plan, and signage marking weather-safe locations. The Extension staff in all counties are to be ready for severe weather conditions and to assist the residents of the county.

Results

During the past two years, the Agricultural Weather Center assisted in the alert and recovery from a late spring freeze, a drought, and a major ice storm. Each of these weather-related situations brought on a response by the College of Agriculture. The late freeze led to an assessment of and a response to the damage to the fruit crop. The draught led to a shortage of hay for winter feeding of livestock the need to help farmers locate feed to carry their animals through the winter. And the ice storm and ensuing power outages created the need for shelter and food for those without electricity, information on food preservation, and the safe operation of generators and chain saws.

4. Associated Knowledge Areas

KA Code	Knowledge Area
132	Weather and Climate

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Weather conditions, market fluxuations, trade restrictions, governmental policies, economic situation

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

1. Evaluation Studies Planned

- After Only (post program)

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Sustainable Energy

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
204	Plant Product Quality and Utility (Preharvest)	0%	0%	26%	0%
206	Basic Plant Biology	0%	0%	35%	0%
402	Engineering Systems and Equipment	35%	0%	0%	0%
511	New and Improved Non-Food Products and Processes	0%	0%	33%	0%
512	Quality Maintenance in Storing and Marketing Non-Food Products	0%	0%	6%	0%
723	Hazards to Human Health and Safety	65%	100%	0%	0%
Total		100%	100%	100%	0%

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Actual	5.4	0.0	5.1	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
66508	719	257325	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
616180	719	1466676	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

The production of switchgrass as a biomass energy source is in the third year of a pilot project.

Understanding dormancy and increasing germination rates to improve adoption of gamma grass as a biofuel

Feasibility of the 25x25 initiative, the goal of having 25% of our expected energy produced from renewable resources in 2025

The Poultry House Evaluation Service provided an in-depth energy efficiency evaluation of 42 farms. A reduction of just 10% in energy usage would result in a savings of \$2.5 million to the industry.

Specialists have provided training for industry representatives, contractors, builders, and individuals on energy efficient design, green building certification, and Energy Star products.

Developing improved methods for estimating grain storage inventories and research investigating the impact of storage on the quality of bioprocessing co-products important to the renewable fuel and product industry

Improving plants for renewable energy and carbon sequestration uses through research on cellulose biosynthesis pathways
 Creating new soybean lines with improved oil characteristics for biofuels and biobased products

2. Brief description of the target audience

- Switthgrass producers
- Landowners
- Utility company personnel
- Community leaders
- General public

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual	56996	8526	22738	3398

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

Patent Applications Submitted

Year: 2009
 Plan:
 Actual: 2

Patents listed

Patent numbers:
 7,528,232
 7,525,013

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan			
Actual	0	17	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Published research journal articles

Year	Target	Actual
2009	{No Data Entered}	17

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Feasibility of growing and utilizing switchgrass as a fuel in power generation plants

Outcome #1

1. Outcome Measures

Feasibility of growing and utilizing switchgrass as a fuel in power generation plants

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The production and utilization of switchgrass as a biomass energy source is being investigated. Switchgrass is tall-growing, warm-season, perennial bunchgrass native to portions of Kentucky. The question is whether it can be grown for its biomass to be used as fuel to generate electricity. The critical issues surround its production, the economics of production, and its utilization in existing power generation facilities.

What has been done

This past year was the third year of a five-year project in the production of switchgrass on farms in northeast Kentucky. In 2009, 265 tons of grass were harvested from 20 plots. The grass was then baled with conventional hay baling equipment and pelletized for mixing with coal for use in an East Kentucky Power generation plant.

Results

From the production side, it was found that switchgrass can be planted on marginal land; is adaptable on a wide variety of soil types; the seed has a low germination rate; the seed has to be treated to break dormancy; that establishment is generally slow, however, once established it will continue to yield for 20 years or more; and it is bothered by few insects or diseases. In addition, It was found that when pelletized, switchgrass can be mixed with coal at a rate of 8-10%. The mixture produces fewer pollutants than when burning coal alone.

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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

1. Evaluation Studies Planned

- After Only (post program)

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Childhood Obesity

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
609	Economic Theory and Methods	0%	0%	25%	0%
703	Nutrition Education and Behavior	19%	2%	75%	0%
724	Healthy Lifestyle	81%	98%	0%	0%
Total		100%	100%	100%	0%

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Actual	30.1	0.5	0.8	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
376881	38785	60683	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
3491686	38785	175553	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

Jump into Food and Fitness (JIFF)
 Literacy, Eating and Activity for Preschool and Primary Youth Health (LEAP) reached 16,647 youth with nutrition and physical activity information
 KSU researchers followed 75 three-year old children over a 3-year period to study food choices and consumption. They found that 20% of the children were overweight.
 Small Steps for Health and Wealth
 Second Sunday, an Extension program that emphasizes physical activity in the community
 4-H after school programs
 4-H day camp and overnight camp

The Longest Day of Play

KSU researchers examining food consumption and physical activity as they relate to childhood obesity

Get Moving Kentucky

EFNEP for limited resource families

FSNEP for Food Stamp recipients

Pilot testing of two new healthy diet interventions aimed at improving the food choices of middle school students

Many of the diet, nutrition and physical activity programs were directed toward family members as they influence food choices, exercise, etc. of the children in the family.

2. Brief description of the target audience

Preschool children

Elementary-aged children

Middle and high school students

Children attending after-school programs

Children of limited resource families

4-Hers

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual	153897	33596	236563	52547

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

Patent Applications Submitted

Year: 2009

Plan:

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan			
Actual	0	3	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Published research journal articles

Year

Target

Actual

2009

{No Data Entered}

3

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

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

Outcome #1**1. Outcome Measures**

Number of children 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
2009	{No Data Entered}	56834

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 rate of physical activity is being reduced. According to the US Department of Health and Human Services, Center for Disease Control and Prevention, 87% of Kentucky youth ate fewer than five 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

In the 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 size, new strategies for physical and mental relaxation and the implementation of gradual changes through the development of their personalized My Pyramid. The program requires a minimum of 6 hours of instruction.

Results

Nearly 5,000 youth in 44 Kentucky counties participated in the 4 H Jump Into Foods and Fitness Program with 97% of these youth reporting the adoption of at least one new health or nutrition habit during their participation in the program. One in five participants completed personal activity logs and recorded health and nutrition habits and used pedometers to measure increases on physical activity.

4. Associated Knowledge Areas

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

Outcome #2

1. Outcome Measures

Number of pre-school children 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
2009	{No Data Entered}	25398

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Obesity has reached epidemic levels among Kentucky children. Children form their eating and exercise habits early in life, so it is import to reach them with programs to instill healthy eating and physical activity routines at a young age.

What has been done

The program "Literacy, Eating and Activity for Preschool" (LEAP) was conducted in 78 counties and reached 16,647 pre-school aged children. Programs were conducted wherever the pre-schooler aged children are located - in preschools, child care centers, libraries, Family Resource Centers, Head Start Programs, churches, and homes.

Results

The LEAP program was designed specifically to reach pre-school aged children with basic information on eating habits, physical activity, and cleanliness. As a result of the program, participants reported the following outcomes:
 *88% sampled a variety of foods including fruits and vegetables,
 *75% increased their physical activity level, and
 *65% demonstrated proper hand washing techniques.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

Number of elementary aged children 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
2009	{No Data Entered}	18723

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Current statistics on the health problems that face children indicate the need to educate young children about the importance of making healthy food choices and being physically active. The earlier children begin to practice healthy lifestyle habits, the more likely they are to continue those habits as teens and as adults.

What has been done

The program "Small Steps to Health and Wealth" was conducted in 43 counties with 2,253 children participating. The program emphasized both eating behavior and physical activity, however the program also included spending patterns

Results

Of the participants in the Small Steps to Health and Wealth program:

- *35% tracked their eating and spending habits with a daily log
- *43% compared their current practices with the recommended practices
- *41% selected a strategy for changing his/her behavior
- *38% established an automatic behavior (e.g., regular savings plan)

As a result of the behavioral changes, one-third of the participants reduced calorie intake, increased physical exercise, and reduced expenses.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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

1. Evaluation Studies Planned

- After Only (post program)

Evaluation Results

Key Items of Evaluation