2007 University of Arkansas Combined Research and Extension Annual Report

Status: Accepted
Date Accepted: 06/02/08

2007 University of Arkansas Combined Research and Extension Annual Report

I. Report Overview

1. Executive Summary

The goal of the University of Arkansas, Division of Agriculture is to improve the quality of life for all Arkansans. With our statewide infrastructure, we are well positioned for this mission.Research and extension facilities, faculty and staff are located on five university campuses, five regional centers, eight branch stations and four specialized units.We also have extension faculty and staff in all 75 Arkansas counties.The UA Division of Agriculture reaches more than 2.72 million Arkansans through research, teaching and educational programs. In FY2007,1,274,862 direct educational contacts were made by Cooperative Extension faculty with Arkansas citizens.

UA Division of Agriculture research and extension faculty work collaboratively to develop fundamental and applied programs.We serve stakeholders in all walks of life by helping to ensure the safety and security of our food and fiber system; improving the health and nutrition of Arkansans; conserving and sustaining natural resources; and expanding horizons for youth, families and communities.This annual report provides examples of impacts from our efforts in these areas.

Arkansas is a rich state in terms of natural resources. Agriculture is one of the largest industries having an economic impact of over $13 billion or over one-fifth of the Gross State Product. Agriculture accounts for about one in five jobs and an annual payroll of between $8 and $9 billion. Agriculture consists of agronomic and horticultural crops, animal agriculture and forestry. Over one-half of Arkansas is in forests much of which is owned by private landowners. Food processing adds much value to the commodities grown in the state.

Arkansas is the nation's largest rice producer, one of the top producers of poultry and consistently one of the top producers of cotton and soybeans. The diversity of Arkansas agriculture includes fruits, vegetables, beef and dairy, broilers and eggs, corn, wheat, and many other crops.

In just two years, "energy" has become a new Arkansas farm commodity.It could be the biggest development in Arkansas agriculture since soybeans and chickens became major commodities in the 1950’s and 1960’s.A biodiesel industry was born in Arkansas in late 2005 and 2006 with two refineries starting up at Batesville and Stuttgart.In 2007, four other plants were built at Dewitt, Helena, Crossett and Arkansas City.

In the near future, we could be producing ethanol and other energy products in Arkansas using non-food, low-input, cellulosic energy crops as feedstock, as well as plant residue from other crops and logging operations.The University of Arkansas System’s statewide Division of Agriculture is committed to doing all we can to help make the tremendous potential of biofuels a sustainable reality.

The emergence of biodiesel as a market for soy oil is a boon to our soybean producers, but the resulting higher prices have slowed growth of the state’s biodiesel industry.A combination of more oilseed crushing capacity and alternative sources of oil might be the solution.

The next generation of bioenergy technology could be conversion of non-food, low-input, cellulosic plant matter to ethanol and other bioenergy products.The Division is field testing switchgrass as a potential cellulosic energy crop.It can be grown successfully on marginal land with minimal production costs.Field studies are also looking at its potential to remove phosphorus from soils where poultry litter has been applied for many years.

The Division’s Arkansas Forest Resources Center at Monticello is working with forest products companies, which are well positioned to collect and process woody feedstocks and eventually implement cellulosic bioenergy technology.Related projects involve improving the refining efficiency of specific feedstocks and utilizing co-products, such as high-value neutraceuticals, from the refining process. We are helping to document the fuel efficiency, engine wear and emissions associated with biodiesel.

Arkansas ranks 4th in timber production: approximately 18 million acres of forest land representing approximately 56 percent of the total land base. Forestry is the leading employer in South Arkansas, one of the nation’s leading timber -producing regions.Forest-based tourism, recreation, watershed protection, and wildlife habitat are vital to the economy, environmental health, culture and identity of Arkansas. Some issues require a very active statewide forest resources program, such as the urban/wildland interface. Other issues include ecological impacts, wildlife nuisance and safety concerns such as deer-vehicle collisions, storm water run off and land-use policy conflicts. The UA Forest Resource Center has projects at state-wide Division

locations and on public and private forestlands, actively partnering with the Arkansas Game and Fish Commission, Forestry Commission, Natural Resources Conservation Service and forest products companies.

The Easter weekend in 2007 wasn't pleasant for Arkansas wheat and corn growers.Record warmth spurred wheat and corn growth, and then on Easter weekend, a freeze descended.For the 800,000-acre wheat crop, the freeze came at the worst possible time, and farmers lost about a third of the yield.Nearly a third of the 560,000-acre corn crop had to be replanted.Division of Agriculture specialists and agents received numerous calls from worried farmers asking how to determine if they should continue the crop, destroy it or replant.The Division conducted many meetings and sent out several newsletters advising farmers what to look for, how to make a determination and what management practices to use.

Division scientists have developed a soybean breeding line that is significantly more tolerant of drought conditions than existing commercial varieties.The drought-resistant genetic trait in the Arkansas breeding line is being made available to all soybean breeders so that it can be incorporated into improved commercial varieties.The Arkansas drought-tolerant breeding line continues the process of nitrogen fixation when plants are growing under moderate drought stress.In commercial varieties currently available, nitrogen fixation is one of the first functions to shut down when plants suffer moderate drought stress.

When Asian soybean rust entered the United States a few years ago, the Division created 22 sentinel plots around the state to scout weekly for the potentially devastating disease.The Division also worked with a network of other states to track the spread of the disease.The disease was spotted in southwest Arkansas during the summer of 2007, and the Division put out a warning and recommendations to farmers through its Web site, county extension offices and the media.Farmers in the affected area were advised to spray if their crops were in a certain growth stage while farmers outside the area were advised to scout fields regularly to look for the disease.

Arkansas farmers planted 560,000 acres of corn in 2007, the highest acreage in more than 50 years.The resurgence was brought on by high market prices resulting from corn being diverted to ethanol production.Farmers harvested a statewide average yield of 153 bushels an acre, which surpassed the 2006 record yield of 146 bushels.The Division of Agriculture began working with farmers in November 2006 by providing eager producers with production basics.Many farmers were growing corn for the first time or hadn't grown it in many years and wanted the latest university research-based recommendations.The Division also conducted meetings to discuss grain drying methods and storage options, including a new storage system using giant expandable bags, which the Division is evaluating.

Many environmental and production factors determine crop yield and quality, but the potential depends on the genetics of the seed planted.During 2007, Division scientists conducted plant breeding and/or variety testing programs in rice, soybean, wheat, cotton, corn, grain sorghum, blackberries, grapes, spinach, southern pea, peaches, nectarines and ornamental plants.Our breeders provided improved public varieties and cooperated with private industry to help assure that seed available to Arkansas producers has genetic traits needed for optimum performance under Arkansas conditions.We also trained students pursuing masters and doctoral degrees as future geneticists and breeders.Arkansas farmers helped fund this work through check-off programs for rice, soybeans, cotton, wheat and feed grains.

Arkansas cotton producers have experienced extreme variation in yield in recent years, which may be due, in part, to the effects of global warming.Division research has documented that elevated night temperatures during the early development of boll load reduces yield.Research is continuing to quantify the effects of high-temperature stress and to find methods to screen existing and new cotton varieties and breeding lines for high temperature tolerance.Strategies under study include precise irrigation timing, foliar sprays of potassium to improve translocation to the bolls, and new plant growth regulators to ameliorate stress.

The Division made a significant effort in 2007 to combat the growing problems of weed resistance to herbicides and crop losses caused by herbicide drift during applications.Dr. Paul Neve of Warwick University in England, a world leader in resistant week research, spent several days in Arkansas studying the problem of palmer pigweed, which is increasingly becoming resistant to glyphosate, the chief weapon in the herbicide arsenal.He advised Division personnel and helped develop a computer model to help researchers develop strategies.

The L'Anguille watershed is a little safer from accidental contamination following the collection of more than 42 tons of outdated and unwanted pesticides.The Division of Agriculture coordinated collections of farm pesticides in counties throughout the L'Anguille watershed of eastern Arkansas in 2006 and 2007.Having these chemicals off the land and making sure they were disposed of properly helped increase the security of the aquifer and watershed on which farmers' livelihoods depend.

Some regions of Arkansas are plagued annually by hordes of rice field mosquitoes, and management methods require considerable use of pesticides.Division scientists are researching barrier treatments as a cost-effective alternative to conventional spraying, which could require less pesticide to reach a desired level of protection.Barrier treatment involves the

delivery of pesticides to where mosquitoes rest and harbor rather than as they swarm into populated areas.This ongoing research is designed to provide improved control of mosquitoes with less waste and less release of pesticides into the environment.

An interdisciplinary team of researchers led by Division of Agriculture scientists has developed a portable biosensor for in-field, rapid screening of the avian influenza, "bird flu," virus that can be transmitted from chickens to humans.The inexpensive device specifically and sensitively detects the avian influenza strain H5N1 from poultry cloacal or tracheal swab samples in less than 30 minutes and could help health officials coordinate a rapid response for the eradications, quarantine and vaccination of animals.Rapid detection is the key to controlling the spread of avian influenza.Techniques currently used to detect the disease are either time consuming, too expensive or not specific to subtypes of avian influenza viruses.This device, currently in prototype testing, provides robust and reliable results and introduces the concept of real-time detection to facilitate a coordinated and rapid response.

Division scientists are developing genetic tests that will help producers of broiler breeders screen chicks for susceptibility or resistance to ascites, which is a common cause of broiler mortality in production houses.The Division conducts one of the nation' s most productive ascites research programs which has increased the understanding of this syndrome and how to manage it by removing the most susceptible birds for breeding flocks.Ascites syndrome, also known as water belly, results from increase of blood pressure in the lungs followed by accumulation of fluid in the abdominal cavity.It causes about 8 percent of the mortality in broiler houses.

The Division of Agriculture is offering a new series of local educational programs, "Acknowledging Aging," on dementia, grief and loss, humor, laughter and aging, stroke facts, and working with Latino elders.The purpose is to actively engage older adults and teach younger adults beliefs, knowledge and practices related to aging and health.The hope is that individuals will gain a working knowledge of aging, age-related physical changes and disease processes, and myths regarding older people and the aging process.

Arkansas has one of the highest obesity rates in the United States, with 61 percent of adults being either overweight or clinically obese. Annual medical expenditures relating to obesity in Arkansas are estimated at $633 million. Almost 79 percent of adult Arkansans are at risk for health problems related to a lack of physical activity. High blood pressure affects more than one-third of adult Arkansans, and the adult diabetes rate in Arkansas is 7.9 percent – one of the highest in the U.S. 2007 outcome data offers promise of the Division of Agricultures' capacity to reach and impact the health practices of adults in a cost-effective fashion.

Through research and consumer education on nutrition, preparation and selection of more nutritious foods, healthy life style choices, and food resource management, the Cooperative Extension faculty and staff enable Arkansans to improve their overall health and well-being. Programs target low-income families and their children, food stamp recipients, minority audiences and clientele with specific health concerns, such as diabetes or hypertension. Programs are primarily delivered through the Expanded Food and Nutrition Education Program (EFNEP), Food Stamp Nutrition Education (FSNE), Eating and Moving for Life (a minority health initiative), Reshape Yourself (a weight reduction and physical activity program), Walk Across Arkansas (a physical activity program), Health Rocks, and BodyWalk (programs targeting youth and overall healthy lifestyles).Recent statewide BMI data reflects an interruption in the upward trend in the number of "overweight" and "at risk for overweight" Arkansas students.

Hypertension, diabetes, heart disease, stroke and other nutrition-related diseases are a problem in many minority households.The Division of Agriculture and the Arkansas Minority Health Commission are working to reduce the problem with a program called Eating and Moving for Life.An outcome study of 207 participants in Sevier, Phillips and Mississippi counties reflected that, 98 saw an improvement in their weight, 55 saw an improvement in their blood pressure and 114 increased their physical activity following completion of the program.

The Division of Agriculture expanded the Healthy Options for People through Extension (H.O.P.E.) program based on outcomes in the Delta regions of Arkansas, Mississippi and Louisiana, where the program was started with a grant from the Kellogg Foundation.The program integrates a nutrition and physical activity curriculum that is fun for both students and teachers into core subject areas in elementary schools.A grant from the Blue and You Foundation allowed an expansion of the program into five new elementary schools in four counties.More than 1,000 students participated in the educational intervention.Through post-test evaluations with the students, it was revealed that more than 90% of second through fourth graders plan to eat more fruits and vegetables for snacks.Parents were also surveyed at the completion of the program.Of the parents who returned surveys, 71 percent said their children talked to them about healthy food and snacks, and 56 percent said their children talked to them about being more active.

The Expanded Food and Nutrition Education Program (EFNEP) is a community-based nutrition education program that

helps low-income families improve the nutritional quality of their diets.For more than 30 years, EFNEP has helped Arkansas youth and families with young children develop healthy eating and lifestyle practices.Division of Agriculture extension agents and specialists delivered research-based information in community group settings, the home and classroom.The results are strong, nurturing families, healthy children, positive youth development, and savings in food and healthcare costs.In FY2007, EFNEP enrolled 4,248 individuals, including 2,232 youth.Outcome evaluation was conducted with 1,878 participants that completed the program.Pre- and post-test evaluation instruments, which evaluated behavior changes over the course of the program, demonstrated that 72 percent (359) participants improved food safety practices, 70 percent (1312) planned meals in advance more often, and 50 percent (940) reduced their use of salt during food preparation.

Dietary conjugated linoleic acid (CLA) has properties that help increase lean body mass and protect against caner, heart disease and inflammatory diseases.Until recently, dietary CLA was only available in meat and dairy products in very low amounts.Thanks to a Division of Agriculture research product, CLA is now available in soy oil.Division scientists developed a simple process to convert natural soy oil linoleic acid to CLA.Potato chips fried in this oil contain 2.4 grams of CLA in a 1-ounce serving compared to only 0.1 grams in a 3-ounce serving of steak and 0.06 grams in an 8-ounce serving of milk.

The Division’s popular Master Gardener program provides training for volunteers who work in their communities to promote gardening and other horticultural activities.The Division hosted the 2007 International Master Gardener Conference in Little Rock in May.Approximately 1,500 Master Gardeners and extension educators from 45 states and Canada spent four days in Little Rock celebrating Arkansas’ natural beauty.

Arkansas has 47 Master Gardener programs in 52 counties.The Division currently has 2,665 Master Gardeners across the state.The Division’s program sponsors events that support youth gardening, plant therapy work with hospitals and nursing homes, city beautification and horticulture information.

Arkansas 4-H has 855 organized 4-H clubs in its seventy-five counties.Eighty-nine of those clubs are either in-school or after-school clubs.In order to expand efforts with in-school and after-school partnerships, Arkansas 4-H is holding conversations with both the Arkansas Science & Technology Authority and the University of Arkansas at Little Rock to invest in science, technology, engineering & math (STEM) education.In 2007 there were 902 non-duplicated science, technology and engineering programs delivered in Arkansas with a total of 29,016 non-duplicated participants in STEM programs.Arkansas 4-H is also a team member of the Arkansas Out-of-School Network working with the Governor of Arkansas to institute quality standards and professional development for out-of-school time programs.

Over the past year, county agents made 576,020 youth contacts while also making 700,895 adult contacts related to youth development.The Arkansas 4-H youth program continues to play a significant role in youth development programming across our state.In 2007, 45 percent of all extension direct educational contacts were made with youth (576,020).Two-hundred and fifty-one faculty from all 75 Arkansas counties worked with youth during the fiscal year, reflecting a commitment of 77.29 FTEs invested in 4-H/youth development educational programming.

Outcomes from these programming efforts include:

-One county had fifty-five high school youth and eighty 7th grade youth learn how to use recreational grade GPS.

-Five youth that attended 4-H camp, "Mission Earth-It’s All Up to You," returned home and began a county wide campaign for recycling.In a county of 10,000, the recycling center went from less than one percent of the population recycling to more than five percent of the county population recycling.

-Nineteen youth, ages 12-19, increased their knowledge of technology during a Techno Teen Camp.Some results were knowledge in robotics increased from 1.6 to 4.1 and knowledge in computer programming increased from 1.8 to 3.8.Overall technology knowledge after the camp increased from 1.9 to 4.2.

Arkansas has the ninth highest poverty rate (16 percent) in the country. Seventeen Arkansas counties are designated as "persistent poverty" counties, where more than 20 percent of their people have lived in poverty for 30 years or more. (Rural Family Profile of Arkansas, 2007, UA Division of Ag.).Personal savings rates are less than 1percent (Bureau of Economic Analysis).An extension resource management educational program, Navigating the Financial Journey was conducted 81 times for 2,737 participants during 2007.Participants reported increased knowledge and intent to adopt recommended basic financial management practices.Additionally, 106 programs provided 2,235 clients with education about saving, investing, retirement planning, estate planning, and consumer protection.Program evaluation data reflects that following the program 547 participants set financial goals, 364 created and began using a spending plan, 722 increased understanding of financial record keeping, 208 began or increased deposits to a savings account, 59 deceased their debt, 315 adopted recommendations to protect themselves against consumer fraud, 112 established or revised financial goals to plan for their long-term needs, and 67 developed an

integrated financial plan for retirement, long-term care, and estate planning.

County FCS agents collaborated with local school teachers to present the High School Financial Planning Program (HSFPP).HSFPP has been independently evaluated twice on a national level and shown to greatly improve students' financial knowledge and behavior.As of September 2007, 67 schools had ordered HSFPP materials for 5,095 students.This is an increase from total orders in 2006 of 42 schools and 2,875 students.

During 2007, Arkansas 4-H leaders, youth and volunteers were enthusiastically preparing for the Arkansas 4-H Centennial celebration.AgHeritage Farm Credit Services set the stage for fundraising efforts of the Arkansas 4-H Centennial with a gift commitment that put the organization in the highest level of support as an Emerald sponsor. AgHeritage FCS has long supported the state 4-H program, including support for youth and volunteers to attend the National 4-H Congress, scholarships for youth to participate in the Citizenship Washington Focus program, and capital and building initiatives at the C.A. Vines Arkansas 4-H Center.

The 2006-2007 CSREES Report of Accomplishments provides a comprehensive report of the University of Arkansas Division of Agricultures' annual accomplishments. For the purpose of this report, the accomplishments of the University of Arkansas Division of Agriculture have been summarized through ten planned program areas which include: Agricultural and Food Biosecurity; Agricultural Systems; Animals and Animal Products; Economic and Commerce; Families, Youth and Communities; Food, Nutrition and Health; Natural Resources and Environment; Pest Management; Plant and Plant Products; and Technology and Engineering.The Division's administration and faculty have committed time and resources from federal, state, county, city, and private sources and volunteers to address these many issues. Division of Agriculture faculty and staff work to support and address the emerging needs related to Arkansas' crops, livestock, natural resources, families, youth and communities.

Respectfully submitted,
Milo J. Shult, Vice-President for Agriculture
University of Arkansas

Total Actual Amount of professional FTEs/SYs for this State

Year:2007	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	389.0	0.0	121.0	0.0
Actual	452.8	0.0	121.8	0.0

II. Merit Review Process

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

- Internal University Panel
- External University Panel
- External Non-University Panel
- Combined External and Internal University Panel
- Expert Peer Review

2. Brief Explanation

Programs went through a three-tiered review process:

1. Stakeholder program identification and review
2. Administrative approval and review
3. External review

Stakeholder Program Identification and Review

Stakeholder input into program identification and review were derived from both formal and informal means for all program areas. Public comment on current and future extension and research programs was obtained from county and community meetings, commodity and community associations, commodity check-off boards, state legislative committees and open public forums concerning specific issues. Open public meetings, field days and county and regional production meetings provided forums for stakeholder input open to under-served or under-represented individuals, groups or organizations. For extension, county councils and advisory groups met during the summer of 2007 (at a minimum) to provide input, feedback and/or review of program implementation, redirection, or newly identified needs. Members of these groups were invited to participate in programs, field days, special tours, workshops and conferences throughout the year and for the duration of the program. All reviews of research and extension programs included a stakeholder member or members of the community or industry most influenced by the program area. Open public forums were held to address specific issues of importance to the stakeholder community or industry.

Administrative Approval and Review

Identified planned program areas for research and extension activities were administratively reviewed and approved by the Director of the Agricultural Experiment Station and/or Cooperative Extension Service, as appropriate, within the context of the Division of Agriculture's Strategic Plan and the specific needs identified by stakeholder groups. Smith-Lever, Hatch, McIntire-Stennis, Animal Health and regional research projects were administratively reviewed and approved by the subject matter department head and the director of the Arkansas Agricultural Experiment Station. All research projects were reviewed by three outside scientists prior to submission to the respective subject matter department head and the experiment station.

External Review

Merit review is conducted as part of Division of Agriculture's on-going program review process. The reviews have been departmental or programmatic and cut across departments. Reviews are scheduled on a five to seven year cycle and conducted concurrently for research, extension and instruction. All reviews have been conducted by a team of recognized outside research, extension and teaching professionals balanced to reflect the programmatic needs and diversity. All reviews include one or more stakeholders. The actual review process involves a period of self study, followed by program assessment and bench marking. The review team evaluates the programs effectiveness relative to the stated mission and goals of the department or program as well as the need of stakeholders. Following the outside review teams' written evaluation, the department or program prepared a response to the review. The Division of Agriculture and University administration then met with the department or program faculty one more time to develop a plan for implementing changes. Thereafter, annual progress was reported to Division and University administration.Program reviews in 2007 included Ag Education and Biological and Agricultural Engineering.

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 selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey of the general public
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals
- Survey of selected individuals from the general public
- Other (County Council planning meetings.)

Brief Explanation

The University of Arkansas Division of Agriculture has utilized both formal and informal mechanisms for ensuring the planned program areas address areas of strategic importance to the state. Each planned program was identified based on the needs identified in a series of regional and statewide listening sessions of current and potential stakeholders representing the diversity of the population in the regions and state. Stakeholders of specific programs such as Community Health, 4-H and Youth, and commodity groups, research and extension faculty and staff also identified needed programs and in some cases provided partial funding support. Single issue meetings were held as needed to address emerging issues to craft additional program responses if needed to promptly address the problem.

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

1. Method to identify individuals and groups

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

Brief Explanation

In 2007 the University of Arkansas Division of Agriculture sought input from diverse stakeholder groups. Stakeholders serve on county councils, advisory committees, and boards that advise and oversee the work of the Division. Individuals and stakeholder groups were identified by Arkansas Experiment Station faculty and administrators and by asking county Extension staffs to identify individuals in their local communities who were representative of one or more of the following fifteen stakeholder categories: county services (e.g., DHS, Food Bank or Pantry); financial sector (e.g., banks, agricultural lending, investments); faith-based sector (e.g., church, youth minister); education (public, private, vocational); commercial sector (e.g., chambers of commerce, industry); health (e.g., hospital, public health, doctor); agricultural production; agricultural businesses; county Extension council; 4-H program (e.g., leader, teen, alumni, foundation); government official (e.g., county, city); Extension homemaker; natural resources (e.g., wildlife, forestry, conservation); media (e.g., radio, newspaper, television); and youth services (e.g., community center, youth organizations). In addition to these criteria, Extension staffs were also asked to identify individuals within the fifteen categories who were representative of the gender, racial, ethnic, and socioeconomic demographic make-up of the counties.

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 with the general public (open meeting advertised to all)
- Survey of the general public
- Meeting specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public
- Survey of selected individuals from the general public
- Other (Meeting with regulatory groups, state agencies, & commodity prom)

Brief Explanation

During the summer of 2007, extension faculty met with county council members and program sub-committees to identify local needs for the program planning year beginning October first.County profiles developed by state faculty were utilized to examine a diversity of needs and to understand the changing demographics within each county.Stakeholder-developed materials, such as the Farm Bureau policy development process were used to identify research needs.Several priority-setting activities were scheduled during 2007 with specific commodity or stakeholder groups to seek input on the research planning process.

3. A statement of how the input was considered

- To Identify Emerging Issues
- Redirect Extension Programs
- To Set Priorities
- Other (Strategic Planning)

Brief Explanation

Research and extension faculty and scientists met with UA Division of Agriculture administration to discuss stakeholder needs solicited at meetings throughout the year.Identified needs were integrated into the extension and research planning process to ensure program relevance.Several departments and many of our institutes and centers maintain external advisory boards that provide direct feedback to the unit on the specific research or educational program.

Stakeholder representatives served on most policy-setting groups or program reviews to ensure that the public has a voice in the decision-making process and in program evaluation.Special meetings were held as needed to address major issues impacting any stakeholder group.

Stakeholder input remains vital to ensuring program relevance, and each year programs are adjusted to address identified needs.

Brief Explanation of what you learned from your Stakeholders

Stakeholders want to be involved.Due to the size and scope of the the University of Arkansas Division of Agriculture, reporting all specific stakeholder feedback would exceed the space allocation for this item.Stakeholders participate in establishing annual Cooperative Extension program priorities for each of the 75 counties in Arkansas.Stakeholders are involved in identification of research needs and priorities.

During the statewide listening sessions in support of our five year plan, over 650 Arkansans voiced their concerns about population changes across the state and challenges facing communities in a competitive economy.We heard comments concerning the different issues Arkansans must struggle with every day, including maintaining a competitive edge in agriculture and childhood health and obesity.Concerns were voiced by local officials, legislators and agricultural producers.Comments also came from educators, community leaders and health professionals.Division faculty and staff were among those voicing their opinions.Insight was provided as to how the Division can move toward success over the next five years.

By talking with stakeholders and listening to their thoughts and suggestions for the direction of the Division, we were able to outline our strategy for the next five years.We identified five goal areas on which to focus.These areas include making Arkansas agriculture competitive in a global economy, ensuring the safety and security of Arkansas food and fiber, improving the health and nutrition of Arkansans, conserving and sustaining Arkansas' natural resources, and increasing opportunities for families, youth and communities.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
5467637	0	5776684	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	5466162	0	5776684	0
Actual Matching	5466189	0	5824052	0
Actual All Other	35742447	0	48773491	0
Total Actual Expended	46674798	0	60374227	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous years				
Carryover	6618829	0	0	0

V. Planned Program Table of Content

S. NO.	PROGRAM NAME
1	Families, Youth, & Communities
2	Agricultural & Food Biosecurity
3	Agricultural Systems
4	Animals & Animal Products
5	Economics & Commerce
6	Food, Nutrition & Health
7	Natural Resources & Environment
8	Pest Management
9	Plants & Plant Products
10	Technology & Engineering

Program #1

V(A). Planned Program (Summary)

1. Name of the Planned Program

Families, Youth, & Communities

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
602	Business Management, Finance, and Taxation	7%		0%	
608	Community Resource Planning and Development	10%		0%	
802	Human Development and Family Well-Being	23%		40%	
803	Sociological and Technological Change Affecting Individuals, Fam	5%		0%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	0%		13%	
805	Community Institutions, Health, and Social Services	5%		47%	
806	Youth Development	50%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	145.0	0.0	8.0	0.0
Actual	185.3	0.0	3.6	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
2111367	0	183914	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
2111367	0	185422	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
13805926	0	450818	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Division of Agriculture research programs addressing quality of life and community development issues focus on addressing specific needs of communities and families in close collaboration with state and federal agencies and policy makers.

Parenting and Family Relationships, and Individual Development: Develop, evaluate, and disseminate education programs and curricula, incorporating new Division of Agriculture research.

Couple and Marriage Relationships:
« Design and develop the Marriage Journey curriculum to promote strong marriages.
« Provide more information and resources for strengthening marriage on the www.arfamilies.org website.
« Train county FCS agents how to facilitate marriage education workshops.
« Provide the best marriage education resources (e.g., books, videos, curriculum, etc.) to county FCS agents.

The 4-H Program in Arkansas is delivered through the 75 counties using research based, jury reviewed curriculum. State Faculty provides program leadership and direction. Site based experiential learning programs are delivered at the Arkansas 4-H Center and the Lonoke Farm (a cooperative effort with the University of Arkansas at Pine Bluff - an 1890 institution). Specific 4-H Program delivery modes also include:
« Organized 4-H Clubs
« School enrichment programs
« After School clubs/programs
« Special Interests groups
« Camping

Three Child Care provider training programs supporting this plan of work:
« The Best Care
« Best Care Connected
« Guiding Children Successfully

2. Brief description of the target audience

Adolescents and adults
Adolescents and adults who expect to become parents
Aging Population
Parents
Grandparents
Step parents
Foster parents
4-H members
4-H youth participants
4-H volunteers
4-H parents
Non-4-H adults
School teachers
County Extension faculty
County FCS Agents
Extension Homemakers Council members and trainers
All married couples or those couples considering marriage
Child care providers
Local, state, and community leaders
Elected officials
Entrepreneurs

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	172100	124500	282450	50575
2007	222663	141557	266156	113992

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	9	9	18

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Parenting Journey maps circulated

Year	Target	Actual
2007	10500	43992

Output #2

Output Measure

- Number of parenting programs held

Year	Target	Actual
2007	30	139

Output #3

Output Measure

- Number of parenting participants

Year	Target	Actual
2007	1500	5979

Output #4

Output Measure

- Number of parenting program hours of video training

Year	Target	Actual
2007	110	448

Output #5

Output Measure

- Number of hits on website

Year	Target	Actual
2007	72000	149137

Output #6

Output Measure

- Number of marriage resources available in print or on www.arfamilies.org website

Year	Target	Actual
2007	10	32

Output #7

Output Measure

- Number of hits on www.arfamilies.org website marriage resources

Year	Target	Actual
2007	500	26389

Output #8

Output Measure

- Number of marriage programs/trainings held

Year	Target	Actual
2007	3	17

Output #9

Output Measure

- Number of participants in marriage programs/trainings

Year	Target	Actual
2007	100	634

Output #10

Output Measure

- Number non-duplicated 4-H Youth Development Science programs delivered

Year	Target	Actual
2007	210	453

Output #11

Output Measure

- Number non-duplicated participants in 4-H Youth Development Science programs

Year	Target	Actual
2007	4000	17792

Output #12

Output Measure

- Number of organized 4-H Clubs

Year	Target	Actual
2007	500	855

Output #13

Output Measure

- Number non-duplicated 4-H Youth Development Healthy Lifestyles programs delivered

Year	Target	Actual
2007	200	1049

Output #14

Output Measure

- Number non-duplicated participants in 4-H Youth Development Healthy Lifestyles programs

Year	Target	Actual
2007	50000	11112

Output #15

Output Measure

- Number non-duplicated programs delivered in 4-H Youth Development Citizenship/Leadership

Year	Target	Actual
2007	100	365

Output #16

Output Measure

- Number non-duplicated technology and engineering programs delivered

Year	Target	Actual
2007	75	449

Output #17

Output Measure

- Number non-duplicated participants in technology and engineering programs

Year	Target	Actual
2007	1000	11224

Output #18

Output Measure

- Number of Child Care educational trainings held

Year	Target	Actual
2007	88	143

Output #19

Output Measure

- Number of Child Care online courses offered

Year	Target	Actual
2007	2	3

Output #20

Output Measure

- Number of hours of Child Care in-service training offered

Year	Target	Actual
2007	15	15

Output #21

Output Measure

- Number of hours of Child Care video/DVD training provided

Year	Target	Actual
2007	1800	2296

Output #22

Output Measure

- Number of direct adult contacts reported related to community and economic development

Year	Target	Actual
2007	4000	88607

Output #23

Output Measure

- Number of indirect adult contacts reported related to community and economic development

Year	Target	Actual
2007	6000	47958

Output #24

Output Measure

- Number of direct youth contacts reported related to community and economic development

Year	Target	Actual
2007	150	13997

Output #25

Output Measure

- Number of indirect youth contacts reported related to community and economic development

Year	Target	Actual
2007	200	1507

Output #26

Output Measure

- Number of events reported related to community and economic development

Year	Target	Actual
2007	50	3426

Output #27

Output Measure

- Number of Arkansas Commodity Grants

Year	Target	Actual
2007	3	0

Output #28

Output Measure

- Number of federal grants and contracts

Year	Target	Actual
2007	5	4

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Number of 4-H participants who learned accepting differences life skill
2	Number of 4-H participants who learned healthy lifestyles choices life skill
3	Number of 4-H participants who learned self-responsibility life skill
4	Number of 4-H participants who learned leadership life skill
5	Number of 4-H participants who learned marketable skills life skill
6	Number of 4-H participants who learned wise use of resources life skill
7	Number of child care providers who report an increase in knowledge related to specific child care issues after participating in an Extension program
8	Number of participants that increased knowledge of community and economic development issues
9	Number of participants adopting an effective parenting behavior/practice
10	Number of participants adopting a targeted relationship-enhancing behavior
11	Number of participants adopting a targeted personal development behavior
12	Number of 4-H Journals completed in 4-H Youth Development Science areas
13	Number of projects completed in 4-H Youth Development Science areas
14	Number of 4-H Journals completed in 4-H Youth Development Healthy Lifestyles areas
15	Number of projects completed in 4-H Youth Development Healthy Lifestyles areas
16	Number of 4-H Journals completed in 4-H Youth Development Citizenship/Leadership areas
17	Number of projects completed in 4-H Youth Development Citizenship/Leadership areas
18	Number of 4-H Journals completed in 4-H Youth Development technology and engineering areas
19	Number of projects completed in 4-H Youth Development technology and engineering
20	Number of child care providers adopting a recommended practice after participating in an Extension program
21	Number of participants who report an improved relationship with a child as a result of using a targeted parenting behavior
22	Number of participants who report an improved relationship with a partner as a result of using a targeted parenting behavior
23	Number of participants who report an improved quality of life as a result of using a targeted personal development behavior
24	Number of 4-H members receiving scholarships and grants for post secondary education
25	Number of youth and adults who practice good citizenship and provide community based leadership throughout Arkansas as evidenced by volunteer hours contributed through the 4-H program
26	Percent of long term (three years or more) 4-H members graduating High School
27	Number of licensed child care facilities achieving quality approval status
28	Number of community and economic development projects initiated
29	Number of county residents and lay leaders conducting programs or adopting new skills as a result of community and economic educational efforts
30	Number of youth conducting community service projects as a result of community and economic development educational efforts
31	Number of contracts and subcontracts reported
32	Number of Refereed Journal Publications
33	Number of participants who indicate that they have gained new knowledge on a targeted parenting behavior
34	Number of participants who indicate that they have gained new knowledge on a targeted relationship-enhancing behavior
35	Number of participants who indicate that they have gained new knowledge on a targeted personal development behavior
36	Number of 4-H participants who learned decision making life skill
37	Number of 4-H participants who learned communications life skill

38	Number of participants enrolled in 4-H GPS & NatureMapping who reported learning enough during the program to use GPS on their own
39	Number of participants enrolled in 4-H GPS & NatureMapping who plan to use GPS in the future.
40	Number of non-duplicated 4-H youth participating in engineering & technology events

Outcome #1

1. Outcome Measures

Number of 4-H participants who learned accepting differences life skill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	200	1545

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #2

1. Outcome Measures

Number of 4-H participants who learned healthy lifestyles choices life skill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	15553

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The State of Arkansas, as well as Chicot County, has a growing number of youth becoming overweight and obese. 'Kids in the Kitchen' workshops have provided the opportunity for youth countywide over the past 4 years to participate in a three day hands-on nutrition education activity during the school summer break.

What has been done

Youth gain knowledge about the Food Guide Pyramid, portion control of food, food preparation techniques, food safety and the importance of physical activity. Each youth adopted food preparation techniques by following food demos appropriate for their ability and age.

Results

43 non-duplicated youth participated in the three day nutrition education workshop.

53% gained knowledge that fruits and vegetables are loaded with fiber.
47% gained knowledge that fiber works best with water.
23% gained knowledge that 'Take 5 a Day' means to eat 5 servings of fruits and vegetables each day.
23% gained knowledge that people who ate greater amounts of fruits and vegetables had lower rates of some cancers.
44% learned that pretzels have less fat than potato chips for a snack.

In 2003, one youth did not want to participate in the workshop because he thought it was for 'little kids'. He said, 'I'll just be bored.' He truly put up a fuss about attending the workshop. In 2007, he graduated from the Cooking and Hospitality Institute in Chicago. He plans to own a restaurant.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

Number of 4-H participants who learned self-responsibility life skill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	225	6675

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #4

1. Outcome Measures

Number of 4-H participants who learned leadership life skill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	4163

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Involving teenaged youth in leadership activities can be a challenge for any youth development professional. This is even more difficult for youth development professionals in rural settings. The Engaging Youth Serving Communities ATV Program in Newton County has engaged youth in finding solutions to a county issue - ATV safety. Newton County, Arkansas has the highest ATV accident rate in the state per capita and one of the highest in the nation.

What has been done

A team of youth in cooperation with the County Extension Agents conducted community forums in 3 local high schools. 176 youth and adults participated in the community forums throughout the county. After completion of the community forums the youth met back together to select the top two solutions to reduce ATV injury in Newton County. The top solutions are: provide designated approved ATV trails and provide lighter, more comfortable helmets.

Results

176 youth participated in the 3 community forums. The 25 member youth leadership team reported learning how to conduct a meeting. In addition the youth utilized those skills to coordinate and lead the public forums throughout the county. The youth felt empowered by discussing solutions to a problem in their community. The fact that young people were even asked for their opinion and input made them feel part of the solution - not part of the problem.

4. Associated Knowledge Areas

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

Outcome #5

1. Outcome Measures
Number of 4-H participants who learned marketable skills life skill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	225	7763

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #6

1. Outcome Measures

Number of 4-H participants who learned wise use of resources life skill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	225	8962

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The spending behavior of youth combined with their limited understanding of money management promotes habits that may lead to a life-long pattern of costly financial mistakes. Very few youth in the state of Arkansas have been taught the importance of saving money and how to differentiate between wants and needs.

What has been done

The Shifting Financial Attitudes program allowed youth an opportunity to experience educational activities that focused on increasing the youths' knowledge in the areas of budgeting and saving, basic banking skills, and consumer shopping. Three learner outcomes were identified:

* Improve personal financial management knowledge
* Develop understanding of how personal values affect consumer behavior
* Use basic budgeting skills to differentiate between wants and needs.

Results

A total of 285 participants from nine counties of the southwest region of Arkansas completed the Shifting Financial Attitudes workshop. Post surveys indicated that 90% of the participants demonstrated that they were better able to make choices on how they spend their money, assist with developing their family budget plan, and that they understood the importance of saving money.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #7

1. Outcome Measures

Number of child care providers who report an increase in knowledge related to specific child care issues after participating in an Extension program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2500	235

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services
802	Human Development and Family Well-Being

Outcome #8

1. Outcome Measures
Number of participants that increased knowledge of community and economic development issues

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	5591

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The young people of Sparkman, AR in Dallas County were not displaying any civic mindedness. Much of this was due to the limited economic circumstances.

What has been done

The County Extension Office initiated a program called 'Planting Good Attitudes Toward Volunteering.' The program provided fun and educational experiences while trying to teach 4-H'ers to be civic minded. The children planted flowers in front of city hall and in flower beds at a park.

Results

Local residents have commented about how much better the community looks with the new flower beds. The children reported they had a positive feeling about working hard and accomplishing something without expecting anything in return. The agents reported more parental involvement with 4-H activities since the program. In addition, the parents are exhibiting skills such as being more accepting of others and cooperation skills since meeting the other parents and children in the 4-H program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #9

1. Outcome Measures

Number of participants adopting an effective parenting behavior/practice

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	2829

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

Outcome #10

1. Outcome Measures

Number of participants adopting a targeted relationship-enhancing behavior

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	109

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #11

1. Outcome Measures

Number of participants adopting a targeted personal development behavior

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	206

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #12

1. Outcome Measures

Number of 4-H Journals completed in 4-H Youth Development Science areas

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	400	638

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #13

1. Outcome Measures

Number of projects completed in 4-H Youth Development Science areas

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	1270

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

While only 3 percent of Arkansas' population is directly involved in agricultural production, agriculture is our largest industry, providing over $5 billion a year in farm income (25 percent of the state's economy). However, Producer Focus Groups and the Farm Crisis Survey identified a significant need, particularly with youth, for an increase in factual public information and education regarding production agriculture.

What has been done

In a 50/50 partnership with the University of Arkansas at Pine Bluff (an 1890 institution), an Arkansas Ag Adventures center was established on the UAPB Research Farm in Lonoke. Hands-on field trips, camps, workshops and school programs are presented for all ages with a concentration on STEM applicability.

Results

Due to the partnership with UAPB (an 1890 institution), agricultural awareness outreach programs have increased in over 30% of the counties in Arkansas. The Ag Awareness program serves as a leader in GPS/GIS youth education (Geospatial Fitness Program) and as a resource for teachers in physical, biological and agricultural sciences, both on-site and in the field.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #14

1. Outcome Measures

Number of 4-H Journals completed in 4-H Youth Development Healthy Lifestyles areas

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	130	215

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #15

1. Outcome Measures
Number of projects completed in 4-H Youth Development Healthy Lifestyles areas

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	200	617

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #16

1. Outcome Measures
Number of 4-H Journals completed in 4-H Youth Development Citizenship/Leadership areas

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	47

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #17

1. Outcome Measures

Number of projects completed in 4-H Youth Development Citizenship/Leadership areas

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	413

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #18

1. Outcome Measures

Number of 4-H Journals completed in 4-H Youth Development technology and engineering areas

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	27

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #19

1. Outcome Measures

Number of projects completed in 4-H Youth Development technology and engineering

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	400	294

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area

806	Youth Development

Outcome #20

1. Outcome Measures

Number of child care providers adopting a recommended practice after participating in an Extension program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	68

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #21

1. Outcome Measures

Number of participants who report an improved relationship with a child as a result of using a targeted parenting behavior

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	2666

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #22

1. Outcome Measures

Number of participants who report an improved relationship with a partner as a result of using a targeted parenting behavior

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	27

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #23

1. Outcome Measures

Number of participants who report an improved quality of life as a result of using a targeted personal development behavior

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	181

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #24

1. Outcome Measures

Number of 4-H members receiving scholarships and grants for post secondary education

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	40	47

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #25

1. Outcome Measures

Number of youth and adults who practice good citizenship and provide community based leadership throughout Arkansas as evidenced by volunteer hours contributed through the 4-H program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3000	45682

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #26

1. Outcome Measures
Percent of long term (three years or more) 4-H members graduating High School

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	85	96

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #27

1. Outcome Measures
Number of licensed child care facilities achieving quality approval status

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #28

1. Outcome Measures

Number of community and economic development projects initiated

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	71

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Prior to a 'Mission Earth' camping program, Perry County's biggest year of recycling was less than one-quarter of one percent of the total waste stream.

What has been done

Perry County sent five youth to state 4-H camp in 2006. The theme was 'Mission Earth - It's All Up to You.' After camp, the kids started asking about recycling in Perry County. It was learned that Perry County had recycling containers from only five families out of a population of 10,000. 4-H began collaborating with Heifer Ranch, Recycle Works, Perry County Transfer Station, Perry County Hometown Health Advocacy Team and schools in the county to develop and implement recycling.

Results

Previously, Perry County's largest year of recycling was less than one-quarter of one percent of the total waste stream. Programs have been presented to the 4-H Clubs, the business and education leaders, and to many students. In addition, all youth booths at the county fair were about recycling. 400 'Zero Waste' meals were served during the fair. Due to the effort of 4-H members, 5% of the waste stream is now recycled. To further promote recycling, businesses and school districts are being taught how to recycle white paper, cardboard and print cartridges.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
806	Youth Development

Outcome #29

1. Outcome Measures

Number of county residents and lay leaders conducting programs or adopting new skills as a result of community and economic educational efforts

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	1851

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #30

1. Outcome Measures

Number of youth conducting community service projects as a result of community and economic development educational efforts

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	15	691

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Leadership development is important not only for adults but also for youth. The Boone County youth leadership program gives youth an opportunity to learn about personality types, decision making, and leadership styles. The program helps to equip youth to step into leadership roles now and in the future.

What has been done

The Boone County Youth Leadership Program has existed for ten years. Program goals are to develop leadership skills in youth, strengthen self confidence, and involve youth in community service projects. This year, 23 high school juniors completed the program.

Results

Participants reported that they improved communication skills, gained an understanding of strengths and weaknesses of personality types, improved team working skills, learned the importance of goal setting, and strengthened leadership skills. According to evaluations, students not only strengthened leadership skills but also recognized the importance of community service projects. One of the best indicators that participants benefit from the program is that they use the skills learned to conduct programs for other groups. Two groups conducted leadership sessions with organizations/classes at their school.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development
608	Community Resource Planning and Development

Outcome #31

1. Outcome Measures
Number of contracts and subcontracts reported

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	700	1454

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #32

1. Outcome Measures

Number of Refereed Journal Publications

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	15	9

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

Outcome #33

1. Outcome Measures

Number of participants who indicate that they have gained new knowledge on a targeted parenting behavior

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	5003

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #34

1. Outcome Measures

Number of participants who indicate that they have gained new knowledge on a targeted relationship-enhancing behavior

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	138

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #35

1. Outcome Measures

Number of participants who indicate that they have gained new knowledge on a targeted personal development behavior

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	401

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #36

1. Outcome Measures
Number of 4-H participants who learned decision making life skill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	200	7781

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #37

1. Outcome Measures
Number of 4-H participants who learned communications life skill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	350	2534

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #38

1. Outcome Measures

Number of participants enrolled in 4-H GPS & NatureMapping who reported learning enough during the program to use GPS on their own

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	276

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #39

1. Outcome Measures

Number of participants enrolled in 4-H GPS & NatureMapping who plan to use GPS in the future.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	102

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #40

1. Outcome Measures

Number of non-duplicated 4-H youth participating in engineering & technology events

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	9599

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area

806 Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)
- Other (Fuel Prices & Loss of Personnel)

Brief Explanation

Rising fuel prices and the declining economy created barriers for program participation.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Evaluation Results

Marriage Garden Program Impacts

One hundred and seventy-two (172) adults participated in the Marriage Garden evaluation in 2007. There were statistically significant increases in Marriage Garden participants' levels of understanding of the following relationship issues/skills (Commitment, Growth, Nurturing, Understanding, Problem Solving, and Serving) from Time 1 (before participation in Marriage Garden) to Time 2 (after participating in Marriage Garden).

Commit: Time 1 (M = 3.11, SD = .80) to Time 2 [M = 3.85, SD = .36, t(171) = 13.06, p < .000]. The eta squared statistic of (.50) indicates a large effect size.

Grow: Time 1 (M = 2.62, SD = .81) to Time 2 [M = 3.70, SD = .47, t(171) = 17.45, p < .000]. The eta squared statistic of (.64) indicates a large effect size.

Nurture: Time 1 (M = 2.78, SD = .81) to Time 2 [M = 3.76, SD = .45, t(171) = 16.12, p < .000]. The eta squared statistic of (.60) indicates a large effect size.

Understand: Time 1 (M = 2.66, SD = .81) to Time 2 [M = 3.73, SD = .44, t(171) = 18.05, p < .000]. The eta squared statistic of (.66) indicates a large effect size.

Solve: Time 1 (M = 2.51, SD = .85) to Time 2 [M = 3.64, SD = .53, t(171) = 18.82, p < .000]. The eta squared statistic of (.67) indicates a large effect size.

Serve: Time 1 (M = 2.80, SD = .81) to Time 2 [M = 3.75, SD = .47, t(171) = 16.41, p < .000]. The eta squared statistic of (.61) indicates a large effect size.

Fatherhood/Parenting Journey Program Impacts

One hundred and twenty-three (123) adults participated in the Parenting Journey evaluation in 2007. There were statistically significant increases in Parenting Journey participants' levels of understanding of the following parenting issues/skills (Caring for self, Understanding children, Guiding children, Nurturing children, Motivating Children, and Advocating for children) from Time 1 (before participation in Parenting Journey) to Time 2 (after participating in Parenting Journey).

Caring for Self: Time 1 (M = 3.24, SD = .77) to Time 2 [M = 3.81, SD = .41, t(122) = 8.82, p < .000]. The eta squared statistic of (.39) indicates a large effect size.

Understanding Children: Time 1 (M = 2.99, SD = .76) to Time 2 [M = 3.84, SD = .37, t(122) = 14.09, p < .000]. The eta squared statistic of (.62) indicates a large effect size.

Guiding Children: Time 1 (M = 3.10, SD = .73) to Time 2 [M = 3.87, SD = .34, t(122) = 13.15, p < .000]. The eta squared statistic of (.59) indicates a large effect size.

Nurturing Children: Time 1 (M = 3.25, SD = .78) to Time 2 [M = 3.89, SD = .31, t(122) = 10.31, p < .000]. The eta squared statistic of (.47) indicates a large effect size.

Motivating Children: Time 1 (M = 3.05, SD = .81) to Time 2 [M = 3.85, SD = .38, t(122) = 12.00, p < .000]. The eta squared statistic of (.54) indicates a large effect size.

Advocating for Children: Time 1 (M = 2.78, SD = .87) to Time 2 [M = 3.76, SD = .48, t(122) = 14.41, p < .000]. The eta squared statistic of (.63) indicates a large effect size.

Key Items of Evaluation

4-H:

Our online life-skill evaluation tool is being developed for use with the 4-H Youth Development Program.

Marriage Garden:

The 172 Marriage Garden participants surveyed indicated that they agree or strongly agree with the following statements:

My knowledge of healthy marriage relationships has increased: 96%
My skills as a spouse/partner are likely to increase: 94%
I have a desire to be a better spouse/partner: 95%
I will change (improve on) at least one relationship strengthening behavior or practice: 95%
I think my relationship with spouse/partner is likely to improve: 92%
I would recommend this program to family and friends: 97%

Fatherhood/Parenting Journey Program Impacts:

The 123 Parenting Journey participants surveyed indicated that they agree or strongly agree with the following statements:

My parenting knowledge has increased: 96%
My skills as a parent are likely to increase: 94%
I have a desire to be a better parent: 97%
I will change (improve on) at least one parenting behavior or practice: 92%
I think my relationship with child is likely to improve: 88%
I would recommend this program to family and friends: 97%

Program #2

V(A). Planned Program (Summary)

1. Name of the Planned Program

Agricultural & Food Biosecurity

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
212	Pathogens and Nematodes Affecting Plants	50%		50%	
311	Animal Diseases	25%		25%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	25%		25%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	0.0	0.0	0.0
Actual	2.6	0.0	3.2	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
44271	0	142386	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
44271	0	143554	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
289485	0	1427407	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Individual consultations
Workshops
Farm visits
Field Days
Sentinel Plots
Spore Traps
Interviews
Source water contamination training
Disease detection and prevention training
Food Safety Training
Diagnosis training
Diagnostic Visits
Plant & Animal Diagnostic Testing
Disaster relief training
Emergency preparedness training
Grain Handling & Storage Industry security training
Production of education materials
Mass Media (print, radio, TV)
Newsletters & Direct Mailing
Scientific symposia & technical conferences for industry personnel to determine flock or herd health status
Collaborative planning meetings with state/federal agencies and regulatory officials

2. Brief description of the target audience

Soybean producers
Crop consultants
Dealer personnel
Pesticide applicators
Livestock Company Personnel
Poultry Company Personnel
Poultry Growers
Elected Officials
First Responders
Grain Handling & Storage Industry
State Agency Personnel
State/Federal Regulatory Personnel
Agribusiness
Division of Agriculture personnel
National Agency Personnel (APHIS, SPDN, NPDN, NAPIS, SRIPMC)

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	4000	9000	0	0
2007	13352	22768	121	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number clientele trained on biosecurity

Year	Target	Actual
2007	800	13473

Output #2

Output Measure

- Number of educational materials developed on biosecurity

Year	Target	Actual
2007	10	10

Output #3

Output Measure

- Number newsletters & fact sheets disseminated to clientele regarding biosecurity

Year	Target	Actual
2007	3600	11800

Output #4

Output Measure

- Number of producers interviewed/surveyed

Year	Target	Actual
2007	100	151

Output #5

Output Measure

- Number of soybean sentinel plots

Year	Target	Actual
2007	20	43

Output #6

Output Measure

- Number of spore trap slides

Year	Target	Actual
2007	11	220

Output #7

Output Measure

- Number of Hits to CES Website regarding avian biosecurity

Year	Target	Actual
2007	500	4407

Output #8

Output Measure

- Number of Hits to CES Website regarding livestock biosecurity

Year	Target	Actual
2007	250	14247

Output #9

Output Measure

- Number of Soybean monitoring sites visits

Year	Target	Actual
2007	1000	455

Output #10

Output Measure

- Number of Kudzu monitoring sites visits

Year	Target	Actual
2007	80	215

Output #11

Output Measure

- Number of requested consultations related to exotic animal disease concerns (Livestock & Poultry)

Year	Target	Actual
2007	130	704

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Number of growers/producers reporting increased awareness of need for biosecurity
2	Number of growers/producers reporting knowledge gained related to biosecurity practices
3	Number of growers/producers reporting intent to adopt new biosecurity practices for animal production facilities
4	Number of growers/producers adopting new practices outlined in educational programs to improve biosecurity through proper methods of sanitation; disease prevention, recognition, and control
5	Number of Diagnostic invasive plant disease samples
6	Number of Diagnostic invasive nematode samples
7	Number of avian grower referrals to diagnostic labs for exotic animal disease testing
8	Number of Section 18 Fungicides approved
9	Number Asian Soybean Rust Positive samples
10	Number of SOD Positive samples
11	Number of Bakanae Positive samples
12	Number of Pathogens/nematodes (other) Positive samples
13	Number of reported Avian LT disease outbreaks
14	Number of reported Avian MG disease outbreaks
15	Number of reported Avian MS disease outbreaks

Outcome #1

1. Outcome Measures

Number of growers/producers reporting increased awareness of need for biosecurity

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	350	151

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
311	Animal Diseases
212	Pathogens and Nematodes Affecting Plants
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #2

1. Outcome Measures

Number of growers/producers reporting knowledge gained related to biosecurity practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	350	151

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
311	Animal Diseases
212	Pathogens and Nematodes Affecting Plants

Outcome #3

1. Outcome Measures

Number of growers/producers reporting intent to adopt new biosecurity practices for animal production facilities

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	350	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Not measured.

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants
311	Animal Diseases
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #4

1. Outcome Measures

Number of growers/producers adopting new practices outlined in educational programs to improve biosecurity through proper methods of sanitation; disease prevention, recognition, and control

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	48

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
311	Animal Diseases

Outcome #5

1. Outcome Measures
Number of Diagnostic invasive plant disease samples

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	1852

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants

Outcome #6

1. Outcome Measures

Number of Diagnostic invasive nematode samples

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3500	5727

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants

Outcome #7

1. Outcome Measures

Number of avian grower referrals to diagnostic labs for exotic animal disease testing

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	250	17000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
311	Animal Diseases

Outcome #8

1. Outcome Measures

Number of Section 18 Fungicides approved

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants

Outcome #9

1. Outcome Measures

Number Asian Soybean Rust Positive samples

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	1255

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Since November 2004, when the exotic disease Asian soybean rust first invaded the continental United States, growers have prepared for, and feared, its impact. The basis for fear has been the experience of growers in Brazil and South Africa, where conditions for disease development are near perfect for widespread damage, and the devastation in these countries has been heavily hyped by agricultural news media and fungicide companies.

What has been done

Arkansas and other states responded to the invasion by establishing the Soybean Rust Task Force, currently led by Dr. Scott Monfort, and an extensive monitoring effort that began with the training of more than 600 First Detectors in 2005. Monitoring relies on geographically positioned soybean and kudzu sentinel plots, sampled weekly or bi-weekly from March thru October by first detectors. Monitoring also relies on the services of the Arkansas Plant Health Clinic and its diagnostic capabilities to correctly detect and identify the subtle symptoms or signs of the disease.

Results

In early September, however, the disease was detected in the western Arkansas River Valley and in sentinel plots in Jackson County of the Arkansas Delta. A brief panic engulfed growers in the Delta, but was quickly squelched by publicity and educational efforts of the Task Force and local county agents. The disease developed rapidly in the Delta and the Soybean Task Force and county agents held meetings, field trainings, answered thousands of phone calls and issued newsletters to help growers manage the situation. Growers were advised to spray only late-planted fields still in a susceptible growth stage - most did not panic and followed this advice. For example in Prairie County, one of the largest soybean producing areas,only 5000 acres were treated in response to the soybean rust scare, out of 35,000 acres that growers initially indicated they would treat. This saved about $600,000 in fungicide costs that would otherwise have been wasted. Other counties in the Delta reported similar results and while 200,000 acres of the 3,000,000 planted acres in the region were eventually treated, this was a far cry from what could have been if panic spraying had been allowed to happen.

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants

Outcome #10

1. Outcome Measures

Number of SOD Positive samples

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The incidence rate of SOD positive samples in Arkansas was 0 for 2007

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants

Outcome #11

1. Outcome Measures

Number of Bakanae Positive samples

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The incidence rate of Bakanae positive samples in Arkansas was 0 for 2007

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants

Outcome #12

1. Outcome Measures

Number of Pathogens/nematodes (other) Positive samples

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	22

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants

Outcome #13

1. Outcome Measures

Number of reported Avian LT disease outbreaks

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	200	11

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
311	Animal Diseases

Outcome #14

1. Outcome Measures

Number of reported Avian MG disease outbreaks

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The incidence rate of Avain MG disease in Arkansas was 0 for 2007

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
311	Animal Diseases

Outcome #15

1. Outcome Measures

Number of reported Avian MS disease outbreaks

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	14

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
311	Animal Diseases

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)
- Other (Animal Disease Outbreak, Human E)

Brief Explanation

The drought from July 15, 2007 to September 1, 2007 minimized the soybean rust sample outcomes.High input costs could have caused a compromise of biosecurity practices.Reduced confidence regarding the economy may have impacted consumer food biosecurity concerns.Lead contamination of toys dominated the headlines.We had limited effectiveness because of static or non-increasing resources.In addition the growing number of backyard hobby flocks due to cultural changes has increased the possibility of an avian disease outbreak.

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

1. Evaluation Studies Planned

- After Only (post program)
- During (during program)
- Other (Use of Secondary Data)

Evaluation Results

Evaluations indicated clientele demonstrated an interested in understanding the need for agricultural & food biosecurity. Clientede understood the importance of prevention, diagnostic testing, monitoring and increased awareness.

Key Items of Evaluation

Important keys included support for monitoring, prevention education and diagnostic testing.

Program #3

V(A). Planned Program (Summary)

1. Name of the Planned Program

Agricultural Systems

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
112	Watershed Protection and Management	25%		25%	
133	Pollution Prevention and Mitigation	5%		5%	
134	Outdoor Recreation	5%		5%	
141	Air Resource Protection and Management	5%		5%	
401	Structures, Facilities, and General Purpose Farm Supplies	5%		5%	
403	Waste Disposal, Recycling, and Reuse	40%		40%	
601	Economics of Agricultural Production and Farm Management	5%		5%	
604	Marketing and Distribution Practices	5%		5%	
605	Natural Resource and Environmental Economics	5%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	8.0	0.0	0.0	0.0
Actual	6.0	0.0	1.8	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**
92369	0	94408	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
92396	0	95182	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
603987	0	702101	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

A broad range of direct and indirect methods will be used to provide information to both groups and individuals:

Educational meetings
Tours
Field days
Workshops
Farm visits
Articles and media interviews in publications targeting agricultural producers and private landowners

2. Brief description of the target audience

Agricultural producers
Consultants
Livestock company personnel
Non-farm private landowners
Aquaculture producers
Governmental Agency Personnel
Service providers (involved with animal manure management & environmental Issues)
General Public

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	3700	5000	0	0
2007	15910	7279	1370	320

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	1	4	5

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number educational meetings and workshops

Year	Target	Actual
2007	35	63

Output #2

Output Measure

- Number educational field days

Year	Target	Actual
2007	10	2

Output #3

Output Measure

- Number of farm visits and demonstrations

Year	Target	Actual
2007	35	520

Output #4

Output Measure

- Number of individuals receiving information at Educational Meetings and workshops

Year	Target	Actual
2007	1500	1925

Output #5

Output Measure

- Number of individuals receiving information from farm visits, demonstrations and/or individual consultation

Year	Target	Actual
2007	1000	5673

Output #6

Output Measure

- Number of individuals receiving information at Field Days

Year	Target	Actual
2007	300	17

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Number of clientele who reported knowledge gained
2	Number of clientele who adopted new practices
3	Number of clientele who reported an increase in recreational use of land or pond
4	Number of Manure Samples analyzed by UA Lab
5	Number of Soil samples from livestock producing counties analyzed by UA soil lab
6	Value of agricultural products sold ($1,000): "Other animals and other animal products."
7	Acres of crops planted: "Field & Miscellaneous Crops."

Outcome #1

1. Outcome Measures

Number of clientele who reported knowledge gained

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	218

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many agricultural producers and private landowners seek ways to generate income from alternative agricultural. For example, goats are one of the fastest growing livestock enterprises. Outdoor recreation and agritourism are also important. Examples of alternative enterprises are organic vegetable and fruit production, pen-raised game birds, pine straw, shiitake mushrooms, herb production, small livestock (e.g., goats, rabbits, backyard poultry), and wildlife-recreation/fee fishing enterprises.

What has been done

A broad range of direct and indirect methods were used to provide information to both groups and individuals:
Educational meetings
Tours
Field days
Workshops
One-on-one consultations including farm visits and telephone responses.
Articles and media interviews in publications targeting agricultural producers and private landowners

Results

A total of 65 different workshops, meetings, and field days were held to educate producers about alternative agriculture enterprises. Based on the results of a post survey with program participants, 218 reported that they had gained knowledge concerning alternative agriculture enterprises including farm pond management.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
141	Air Resource Protection and Management
401	Structures, Facilities, and General Purpose Farm Supplies
403	Waste Disposal, Recycling, and Reuse
134	Outdoor Recreation
604	Marketing and Distribution Practices
601	Economics of Agricultural Production and Farm Management
112	Watershed Protection and Management
605	Natural Resource and Environmental Economics

Outcome #2

1. Outcome Measures

Number of clientele who adopted new practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	57

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

An understanding of the actual level of adoption of recommendations is key to reaching program objectives.

What has been done

Educational meetings, field days, and materials were developed to educate clientele about alternative enterprises. Participants were then asked to report on any practices that they may have adopted as a result from this education.

Results

Results from a post survey suggest that 96% of the participants would change their current land management practices to benefit wildlife.
Over 50% indicated an interest in developing a wildlife enterprise and 40% indicated that they would improve their pond or reservoir management.
One farmer in particular developed a shooting preserve that includes pheasant and quail hunting adding income to his traditional beef cattle operation.
Nearly 200 producers reported that they intend to adopt new farm pond management practices as result from attending educational meetings related to farm pond improvements.

4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices
134	Outdoor Recreation
605	Natural Resource and Environmental Economics
112	Watershed Protection and Management
601	Economics of Agricultural Production and Farm Management

Outcome #3

1. Outcome Measures

Number of clientele who reported an increase in recreational use of land or pond

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	28

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Producers and landowners can incorporate recreational use of their land or pond into an economic enterprise.

What has been done

Educational programs were developed to help producers and landowners understand the potential of recreational use as an economic enterprise.

Results

According to post program surveys, 28 producers and landowners reported increases in recreational use of of either their land or pond as result of participating in educational efforts.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
604	Marketing and Distribution Practices
134	Outdoor Recreation
605	Natural Resource and Environmental Economics
601	Economics of Agricultural Production and Farm Management

Outcome #4

1. Outcome Measures

Number of Manure Samples analyzed by UA Lab

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3400	641

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

To maximize to fertilizer value of manure and minimize environmental risks, sampling is the recommended practice to determine nutrient content of manure. Quantifying the number of samples analyzed is the best way to measure implementation of this recommendation. However, while this recommendation is appropriate for standard confined livestock farms, it is not practical for alternative unconfined livestock farms.

What has been done

The manure analysis information for 2007 was analyzed. The data verified the fact that alternative unconfined livestock farms were not submitting samples for analysis.

Results

Manure sampling is not required for unconfined alternative livestock production. The results suggest that many producers are still concerned about minimizing any environmental impacts from their operation.

4. Associated Knowledge Areas

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

Outcome #5

1. Outcome Measures

Number of Soil samples from livestock producing counties analyzed by UA soil lab

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5000	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

To maximize fertilizer value and minimize environmental risks, manure and soil sampling are recommended in balancing manure management, crop production, and environmental protection concerns.

What has been done

Producers were asked to report the number of soil samples submitted to the UA soil lab.

Results

Although producers engaged in alternative livestock production are not required to submit soil sample, many did which highlights their concern for any environmental impact from their operations.

4. Associated Knowledge Areas

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

Outcome #6

1. Outcome Measures
Value of agricultural products sold ($1,000): "Other animals and other animal products."

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	6196	135000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Alternative Agricultural Enterprises program educates producers about non-traditional practices with the potential for providing supplemental income to their farming operation. Rabbits, backyard chickens, pen-raised game birds are a few examples of alternative livestock products.

What has been done

Workshops, field days, and meetings were developed to educate clientele about alternative agriculture enterprises. According to data gathered by the USDA National Agricultural Statistices Service, producers did indeed sell these alternative products.

Results

According to secondary data retrieved from the USDA National Agricultural Statistics Service (Arkansas), an estimated $133,591,000 in cash receipts were generated from miscellaneous livestock: (includes aquaculture, other livestock, and honey). This figure does not include goats which are often classified as an alternative livestock. According to the 2002 Census of Agriculture the market value of sheep and goat production was valued at $1,700,000. Alternative livestock production, has therefore, made a significant economic impact to farmers and producers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices
401	Structures, Facilities, and General Purpose Farm Supplies

Outcome #7

1. Outcome Measures

Acres of crops planted: "Field & Miscellaneous Crops."

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7496000	20000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many producers across the State are interested in small scale alternative operations including nut crops, bee hives, and other crops not counted elsewhere.

What has been done

Workshops and other educational programs were designed to assist this growing sector of the agricultural audience.

Results

Over 20,000 acres of 'alternative crops' were planted in 2006. These included fruits, vegetables, nut crops, and other field crops. The estimated value was $111,000,000 which represent roughly 1.8% of all cash receipts (USDA).

4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics
601	Economics of Agricultural Production and Farm Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Populations changes (immigration,new cultural groupings,etc.)
- Other (Changes in regulatory policies)

Brief Explanation

An Easter freeze severely damaged fruit production (peaches, grapes, pecans, tomatos, blueberries, acorns, etc.).Increasing input costs of fuel, fertilizer, etc. resulted in increased economic burdens on producers.Due to the increase of different ethnic populations the demand for alternative meats and crops increased.The establishment of nutrient surplus areas changed fertilizer and other cultural practices.

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

1. Evaluation Studies Planned

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

Evaluation Results

Post even surveys suggest that clientele used the education provided to make important decisions regarding alternative enterprises.In some cases, producers decided against investing in alternative enterprises after learning about the time, money, marketing efforts, required to be successful.Others have invested in pond improvements and habitat improvements to further their enterprise.

Key Items of Evaluation

Alternative enterprises education is important to the people of Arkansas.As crop and livestock production continues to grow large scale, producers find it increasing difficult to survive.Alternative enterprises including wildlife enterprises can help producers make extra income to weather the periodic downturns.

Program #4

V(A). Planned Program (Summary)

1. Name of the Planned Program

Animals & Animal Products

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals	10%		10%	
302	Nutrient Utilization in Animals	15%		15%	
303	Genetic Improvement of Animals	10%		10%	
304	Animal Genome	10%		10%	
305	Animal Physiological Processes	10%		10%	
306	Environmental Stress in Animals	10%		10%	
307	Animal Management Systems	15%		15%	
308	Improved Animal Products (Before Harvest)	10%		10%	
311	Animal Diseases	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	26.0	0.0	25.0	0.0
Actual	21.6	0.0	20.4	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
339415	0	1151987	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
339415	0	1161433	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2219384	0	10116037	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Conduct educational meetings, tours, field days, farm demonstrations, workshops, farm visits, and other one-on-one consultations to educate agricultural producers.

Publish articles, participate in media interviews in publications targeting agricultural producers and private landowners, and conduct mass media efforts (radio, TV, etc.).

Develop curriculum, provide online education, and write and/or update printed materials (fact sheets, etc.) that addresses the changing needs of the clientele

Conduct train-the-trainer education

Partner with industry (when appropriate)

Design and conduct practical and applied research to improve the efficiency of growth, reproduction, health and management of livestock and poultry.

2. Brief description of the target audience

Agricultural producers
Non-farm private landowners
Aquaculture producers
Small pond owners
Agricultural businesses/Allied industry personnel
Consultants
Breeder managers
Hatchery Managers
Commercial poultry producers
Commercial poultry companies
Other researchers
Students
Extension specialists
Teaching faculty
Research funding personnel and agencies
Policy and decision makers
Public

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	42700	85500	0	0
2007	53949	62802	5729	4966

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

Patent Applications Submitted

Year	Target
Plan:	2
2007 :	8

Patents listed

1. C.Rosenkrans. Genetic Markers for identification of cattle productivity.
2. Compositions and methods of enhancing immune responses to flagellated bacterium
3. Compositions and methods of enhancing immune responses to Eimeria
4. Compositions and methods of enhancing immune responses to avian influenza.
5. Rapid and Automated Electrochemical Method for Detection of Viable Microbial Pathogens.
6. Nanowire Bundle Electrode Based Impedance Biosensor for Specific and Sensitive Detection of Bacteria.
7. Titanate Nanowire Bundle Electrode - Concept, Design and Fabrication.
8. Software for Capillary Optical and Electrochemical Biosensors.

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	13	125	148

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of educational programs, workshops, educational meeting and/or field days

Year	Target	Actual
2007	514	406

Output #2

Output Measure

- Number of clientele attending educational programs (field days, workshops, etc.)

Year	Target	Actual
2007	12021	34846

Output #3

Output Measure

- Number of producers receiving educational material (newsletters, fact sheets, etc)

Year	Target	Actual
2007	5361	45445

Output #4

Output Measure

- Number of producers conducting on farm demonstrations

Year	Target	Actual
2007	36	36

Output #5

Output Measure

- Number of farm visits or one-on-one consultations with producers

Year	Target	Actual
2007	4155	5880

Output #6

Output Measure

- Number of Arkansas Commodity Board Grants received

Year	Target	Actual
2007	115	5

Output #7

Output Measure

- Number of federal grants and contracts

Year	Target	Actual
2007	85	18

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Arkansas cash receipts from farm marketing ($1,000) related to livestock, dairy and poultry Enterprises
2	Arkansas cash receipts from farm marketing ($1,000) related to aquaculture enterprises
3	Business Start Ups
4	Number of livestock producers who gained awareness related to livestock production management practices
5	Number of livestock producers who gained knowledge related to livestock production management practices
6	Number of allied industry personnel who increased awareness related to livestock & poultry production information/practices
7	Number of allied industry personnel who gained knowledge related to livestock & poultry production information/practices.
8	Number of clientele who reported knowledge gained related to aquaculture
9	Number of refereed Journal Publications
10	Number of livestock producers who adopted a new practice
11	Number of livestock producers who initiated or improved their record keeping
12	Number of practices or technology adoptions by poultry producers
13	Number of clientele who adopted new aquaculture practices
14	Number of practices or technology adoptions by allied poultry industry personnel
15	Number of patents and PVPs
16	Number of livestock producers who changed a management practice

Outcome #1

1. Outcome Measures

Arkansas cash receipts from farm marketing ($1,000) related to livestock, dairy and poultry Enterprises

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	4712669	3300000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Livestock and Poultry, including poultry processing, are significant sources of income for Arkansas. Especially considering that many participants in the livestock and poultry industry are older and lower income citizens, animal and animal products provide a substantial portion of income for many Arkansans, who may not have other options

What has been done

All available means of communications ranging from traditional county meetings, county newsletters and communications in local media to multi-county events and cooperative programs with state-wide commodity organizations were used to introduce and encourage practices to increase income.

Results

Farm income changes from year to year due to many variables in addition to management and even marketing. The national economy, government policies such as biofuels mandates, weather in Arkansas and the world for that matter can all affect commodity prices. Our goal was to make Arkansans aware of factors that were, or could, affect prices of their livestock and poultry, and to offer alternatives where those existed.

4. Associated Knowledge Areas

KA Code	Knowledge Area
305	Animal Physiological Processes
308	Improved Animal Products (Before Harvest)
311	Animal Diseases
306	Environmental Stress in Animals
302	Nutrient Utilization in Animals
304	Animal Genome
303	Genetic Improvement of Animals
307	Animal Management Systems
301	Reproductive Performance of Animals

Outcome #2

1. Outcome Measures

Arkansas cash receipts from farm marketing ($1,000) related to aquaculture enterprises

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	106618	112586

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Catfish and other aquaculture enterprises (bait fish, etc.) are important sources of income for producers in the Delta region of Arkansas. With the importation of catfish and other fishes from around the world, profitably from Aguaculture is more and more diffcult.

What has been done

Research and outreach (Extension) efforts were collobrated by University of Arkansas and University of Arkansas at Pine Bluff (1890 institution) faculty.

Results

Aquaculture income changes from year to year to many variables in addition to management changes. Improving Aquaculture cost of production will improve the overall efficiency of the industy.

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
306	Environmental Stress in Animals
305	Animal Physiological Processes
307	Animal Management Systems

Outcome #3

1. Outcome Measures
Business Start Ups

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	24

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

Outcome #4

1. Outcome Measures

Number of livestock producers who gained awareness related to livestock production management practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	3102

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Economic and environmental sustainability were two of the most critical issues to Arkansas livestock and poultry producers. Management at the production level is the most direct method of producer impact on these issues. During 2007, soaring costs of feed, fertilizer and fuel and challenging environmental regulations pertaining to use of poultry litter as fertilizer were foremost on the minds of. Addressing these issues will determine the viability of animal agriculture in Arkansas.

What has been done

Traditional methods of information delivery were used with increasing emphasis on electronic media as ways to get the attention of stakeholders needing to understand the changing challenges to their wellbeing.

Results

Producers were made aware that many of their production priorities may have changed because of the sudden, and potentially long term changes in some input costs - fuel, fertilizer and feed. These costs impacted the pricing patterns for heavier weight calves and resulted in altered market end points to capture the greater value of forage brought about by increased feed costs. Those producing and/or using poultry litter increased emphasis on proper management plans for sale or use of their litter. In summary, Extension and research programs focused on helping people identify their issues and provided workable alternatives to minimize negative impacts.

4. Associated Knowledge Areas

KA Code	Knowledge Area
311	Animal Diseases
301	Reproductive Performance of Animals
306	Environmental Stress in Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
303	Genetic Improvement of Animals
308	Improved Animal Products (Before Harvest)
307	Animal Management Systems

Outcome #5

1. Outcome Measures

Number of livestock producers who gained knowledge related to livestock production management practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	7288

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Economic and environmental sustainability were two of the most critical issues to Arkansas livestock and poultry producers. Management at the production level is the most direct method of producer impact on these issues. During 2007, soaring costs of feed, fertilizer and fuel and challenging environmental regulations pertaining to use of poultry litter as fertilizer were foremost on the minds of. Addressing these issues will determine the viability of animal agriculture in Arkansas.

What has been done

Extension personnel at all levels identified the most appropriate methods of dealing with the issues. A combination of traditional local extension programming, electronic newsletters, multi-county programming, cooperation with industry organizations, and all forms of mass media and personal consultations were used to provide the latest information.

Results

By-product feeds from biofuels production have replaced much of traditional sources of feed for cattle. Practices long known to be important (ie. simple soil testing) have been brought to the attention of producers who once again understood their importance. Management techniques like stockpiling forage rather than baling, using no-til or minimum til to reduce fuel use, planning grazing systems to maximize production and reduce input costs, addressing the issue of increased internal parasite resistance, understanding target points for marketing cattle, and developing BMP's for poultry litter use have helped Arkansas producers adapt to the challenges presented in 2007.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
311	Animal Diseases
308	Improved Animal Products (Before Harvest)
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
303	Genetic Improvement of Animals
306	Environmental Stress in Animals
307	Animal Management Systems

Outcome #6

1. Outcome Measures

Number of allied industry personnel who increased awareness related to livestock & poultry production information/practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Allied industries provide products and services to livestock and poultry producers.

What has been done

Reality is that the numbers of allied industries has shrunk drastically in the last few years as corporations have consolidated.

Results

Extension personnel provided unbiased information about products to stakeholders. From the research side, intensive research with internal parasite control is ongoing with both livestock and poultry, much in partnership with allied industries. Likewise, research with diseases from standpoints of prevention to management is ongoing. Results of this research are passed to allied industry personnel dealing directly with livestock and poultry producers, usually through company research and technical service people, who communicate with researchers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
306	Environmental Stress in Animals
305	Animal Physiological Processes
311	Animal Diseases
307	Animal Management Systems

Outcome #7

1. Outcome Measures

Number of allied industry personnel who gained knowledge related to livestock & poultry production information/practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Allied industries provide products and services to livestock and poultry producers.

What has been done

Reality is that the numbers of allied industries has shrunk drastically in the last few years as corporations have consolidated.

Results

While no direct contacts are shown with the allied industries, Extension personnel provided unbiased information about products to stakeholders. From the research side, intensive research with internal parasite control is ongoing with both livestock and poultry, much in partnership with allied industries. Likewise, research with diseases from standpoints of prevention to management is ongoing. This information is eventually conveyed to allied industry personnel working with producers with the information coming through company research and technical service specialists.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
306	Environmental Stress in Animals
311	Animal Diseases

305	Animal Physiological Processes

Outcome #8

1. Outcome Measures

Number of clientele who reported knowledge gained related to aquaculture

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
308	Improved Animal Products (Before Harvest)
307	Animal Management Systems
311	Animal Diseases

Outcome #9

1. Outcome Measures

Number of refereed Journal Publications

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	315	138

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Refereed Journals are the gold standared for documenting the quality of research and extension information and ensuring that the information is made available to the world's scientific community.

What has been done

Researchers and extension specialists are strongly encouraged to produce publishable work and see that this work is followed through to publication

Results

Refereed journal publications from University of Arkansas professionals in the Animal and Poultry Science Departments published in the recognized journals in our field. Articles ranged from applied production and management to very basic molecular level physiology, genomics and immunology. A number of our scientists served as editorial board members, section editors and journal editors.

4. Associated Knowledge Areas

KA Code	Knowledge Area
304	Animal Genome
305	Animal Physiological Processes
301	Reproductive Performance of Animals
306	Environmental Stress in Animals
307	Animal Management Systems
311	Animal Diseases
302	Nutrient Utilization in Animals
303	Genetic Improvement of Animals
308	Improved Animal Products (Before Harvest)

Outcome #10

1. Outcome Measures

Number of livestock producers who adopted a new practice

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	2256

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Economic and environmental sustainability were two of the most critical issues to Arkansas livestock and poultry producers. There are practices that can help deal with these challenges. Oftentimes, small producers who make up a large percentage of Arkansas producers are not aware of new issues and the solutions that may be available.

What has been done

Extension personnel at all levels identified emerging issues of importance to their stakeholders. Using appropriate information delivery venues, a combination of traditional local extension programming, electronic newsletters, multi-county programming, cooperation with industry organizations, and all forms of mass media and personal consultations were used to provide options.

Results

Because of heighten awareness that provided teachable moments, new practices ranging from more efficient grazing systems, stockpiling forage rather than expensive hay baling, well-designed fertilization programs, changed market inpoints for cattle to capture the increased value of forage brought on by high feedlot finishing costs, increased targeted use of by-products from biofuels production, better designed programs for efficient and environmentally sustainable use of poultry litter on pastures and other practices have been adapted.

4. Associated Knowledge Areas

KA Code	Knowledge Area

307	Animal Management Systems
303	Genetic Improvement of Animals
302	Nutrient Utilization in Animals
306	Environmental Stress in Animals
311	Animal Diseases
308	Improved Animal Products (Before Harvest)
301	Reproductive Performance of Animals

Outcome #11

1. Outcome Measures

Number of livestock producers who initiated or improved their record keeping

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	276

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In addition to the traditional reasons for record keeping,other issues are forcing greater requirements for record keeping, environmental regulations for poultry litter application on pasture, new tracability requirements by industry to document management practices, and the looming requirements by government to comply with country of origin labeling.

What has been done

Information was disseminated on all these subjects, including not only rules and requirements but information on modern technology to trace animals, record and store data and comply with existing and emerging requirements.

Results

Best management practices for utilization of poultry litter are being adopted and used. A number of cattle producers are utilizing electronic identification tags for their calves in order to receive bonus for age and source verified calves. Producers are aware that they are going to have to document age, source, management practices and other information to compete in a marketplace that increasingly is requiring proof of these factors. Data from records are being used to make selection records at the herd level and document the real value of cattle in the market place.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
301	Reproductive Performance of Animals
311	Animal Diseases
303	Genetic Improvement of Animals
302	Nutrient Utilization in Animals

Outcome #12

1. Outcome Measures

Number of practices or technology adoptions by poultry producers

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The poultry industry in Arkansas is vertically integrated. Decisions about adoption of technology are made by the integrators who convey that information to their contract growers via their technical service personnel. However, growers must make decisions about environmental regulations, litter disposal, permitting and verification of practices.

What has been done

Research has been published and made available to management of vertically integrated companies. Information through meetings and other forms were disseminated to growers with particular emphasis on envirmental regulations and proper use or disposal of litter.

Results

The industry continues to adopt technology that enhances production efficiency, product safety and sustainability. Growers are developing and implementing plans to comply with state and federal regulations for litter management, mortalities and other by-products of poultry production.

4. Associated Knowledge Areas

KA Code	Knowledge Area
304	Animal Genome
305	Animal Physiological Processes
307	Animal Management Systems
303	Genetic Improvement of Animals
311	Animal Diseases
306	Environmental Stress in Animals
301	Reproductive Performance of Animals
308	Improved Animal Products (Before Harvest)
302	Nutrient Utilization in Animals

Outcome #13

1. Outcome Measures

Number of clientele who adopted new aquaculture practices

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	109

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
302	Nutrient Utilization in Animals

Outcome #14

1. Outcome Measures

Number of practices or technology adoptions by allied poultry industry personnel

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	35

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The poultry industry in Arkansas is vertically integrated. Decisions about adoption of technology are made by the integrators working with allied industry personnel.

What has been done

Research has been published and made available to management of vertically integrated companies and to allied industry representatives. Workships, one-on-one consultations, newsletters and CES publications were used to disseminate information for allied industry personnel.

Results

Results show increased knowledge and adoption of practices in areas critical to sustainablity of the poultry industry. Surveys of allied industry personnel show increased knowledge that improved production efficiency. Allied industry personnel reported changing attitudes and increased adoption of scientifically based information involving compliance with environmental regulations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

Outcome #15

1. Outcome Measures

Number of patents and PVPs

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	15	9

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
303	Genetic Improvement of Animals
311	Animal Diseases

Outcome #16

1. Outcome Measures
Number of livestock producers who changed a management practice

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	1802

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Economic and environmental sustainability were two of the most critical issues to Arkansas livestock and poultry producers. There are practices that can help deal with these challenges. Oftentimes, small producers who make up a large percentage of Arkansas producers are not aware of new issues and the solutions that may be available.

What has been done

Extension personnel at all levels identified emerging issues of importance to their stakeholders. Using appropriate information delivery venues, a combination of traditional local extension programming, electronic newsletters, multi-county programming, cooperation with industry organizations, and all forms of mass media and personal consultations were used to provide options.

Results

Because of heighten awareness that provided teachable moments, new practices ranging from more efficient grazing systems, stockpiling forage rather than expensive hay baling, well-designed fertilization programs, changed market inpoints for cattle to capture the increased value of forage brought on by high feedlot finishing costs, increased targeted use of by-products from biofuels production, better designed programs for efficient and environmentally sustainable use of poultry litter on pastures and other practices have been adopted.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
311	Animal Diseases
303	Genetic Improvement of Animals
301	Reproductive Performance of Animals
306	Environmental Stress in Animals
302	Nutrient Utilization in Animals
308	Improved Animal Products (Before Harvest)

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Public Policy changes
- Other (Animal Diseases)

Brief Explanation

Outcomes were impacted in 2007 by:

1.Soaring costs of feed for livestock and poultry.This was brought on by public policy mandating and subsidizing conversion of corn to ethanol.Impacts on poultry and swine were direct, namely increased costs of production.Arkansas cattle producers experienced increased costs of supplemental feed for grazing cattle which directly reduced prices for their product - stocker and feeder calves.Ironically, greatly increased costs of feedlot production increased the value of weight gain on grass and created the opportunity to profitably grow calves in Arkansas to heavier market weights.

2.Extreme drought conditions occured in the southeastern US but did not impact Arkansas to any great extent.Challenges were presented to Arkansas cattlemen because liquidation of herds in the Southeast depressed cattle prices to some extent.On the other hand, cheaper stocker calves were an opportunity to Arkansas stocker producers who had available forage and bought southeastern calves at favorable prices (for the buyers).

3.The nation's economy pressured demand for meat, especially at the restaurant level as consumers had less disposable income for luxury expendatures.

4.Diversion of grain to ethanol forced ARkansas cattlemen to utilize more by-product feeds instead of corn to supplement their cow herds.

5.Soaring costs for fuel and fertilizer had the obvious impacts on production economics.

6. Internal parasites are becoming an increasing concern for livestock and poultry producers.No new products for control are being developed and organisms are becoming restistant to existing products.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- Case Study
- Other (Sec. data: NatAgStatServ)

Evaluation Results

Producers of animals and animal products were very concerned with increasing input costs. Cost items such as feed, fertilizer and fuel are eating away at profits. Producers noted the selling prices for animals (calves, poultry, etc.) and animal products are declined made the situation worst. Producers are very concerned with the future and what will happen to input costs and selling prices.

Key Items of Evaluation

The challenge for CSREES is to research and demonstration new management approaches to reduce input costs without reducing production. Increasing production efficiency and enhancing record keeping is necessary to asisit producers with making the right decisions at the right time.

Program #5

V(A). Planned Program (Summary)

1. Name of the Planned Program

Economics & Commerce

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
112	Watershed Protection and Management	10%		10%	
601	Economics of Agricultural Production and Farm Management	10%		10%	
602	Business Management, Finance, and Taxation	10%		10%	
603	Market Economics	10%		10%	
604	Marketing and Distribution Practices	10%		10%	
605	Natural Resource and Environmental Economics	10%		10%	
606	International Trade and Development	10%		10%	
610	Domestic Policy Analysis	10%		10%	
611	Foreign Policy and Programs	10%		10%	
801	Individual and Family Resource Management	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	18.0	0.0	11.0	0.0
Actual	30.1	0.0	8.4	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
370569	0	592536	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
370569	0	597395	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2423096	0	1736153	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

New technologies and products that will enhance global competitiveness were dissimenated.
Economic evaluations of selected new technologies that may increase production efficiencies were conducted.
Educational products and materials were created.
Developed and conducted educational meetings
Direct clientele contacts, phone calls, personal visits, mail, and e-mail were made.
Developed, evaluated, and disseminated education programs and curricula, incorporating new research and emphasizing:

« Basic Financial Management
« Consumer Skills
« Youth Financial Literacy
« Budget Development
« Money Management
« Wise Use of Credit
« Consumer Protection
« Estate Planning
« Farm and Risk Management

2. Brief description of the target audience

Farmers
Marketers
Consumers
Professional Economists
quot;Baby Boomers"
Limited Resource Families
Adults age 65 and older
Young Adults
Youth Ages 14-19
Other Researchers
Students
Extension Specialists
Teaching Faculty
Research Funding Personnel and Agencies
Policy and Decision Makers

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	15300	90300	0	0
2007	24567	250211	1743	22

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

Patent Applications Submitted

Year	Target
Plan:	1
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	4	40	44

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of educational sessions provided to clientele on Farm and Risk Management and Commodity Marketing

Year	Target	Actual
2007	90	860

Output #2

Output Measure

- Number clientele participating in educational sessions related to Farm Financial Management/Risk Management

Year	Target	Actual
2007	2000	2633

Output #3

Output Measure

- Number of family resource management educational programs/workshops conducted

Year	Target	Actual
2007	20	257

Output #4

Output Measure

- Number of family resource management in-service training sessions conducted

Year	Target	Actual
2007	2	3

Output #5

Output Measure

- Number of Educational Products & Materials Disseminated

Year	Target	Actual
2007	90000	345

Output #6

Output Measure

- Direct clientele contacts, phone calls, personal visits, mail, and e-mail

Year	Target	Actual
2007	9500	26310

Output #7

Output Measure

- Number of Arkansas Commodity Grants Received

Year	Target	Actual
2007	10	9

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Number of Refereed Journal Publications
2	Number of producers who have an increased understanding of farm and risk management
3	Number of participants who complete basic financial management education programs
4	Number of participants who: Increase knowledge of budget development, increase knowledge of money management, increase knowledge of wise use of credit, and/or increase knowledge of consumer protection
5	Number of producers that implemented changes in management practices as a result of farm management educational efforts
6	Number of producers that implemented changes in management practices as a result of farm policy educational efforts
7	Number of producers that implemented changes in management practices as a result of commodity marketing educational efforts
8	Number of Farmers Markets
9	Number of participants who adopt one or more of the following practices: Set financial goals, calculate net monthly income, develop a spending plan, keep financial records (including, but not limited to household account record and expense record)
10	Percentage of participants reporting an increase in savings
11	Percentage of participants reporting a decrease in debt
12	Number of non-business bankruptcy filers statewide (for 2011 compared to 2007)
13	Sustainable, vibrant and globally competitive agricultural sector for Arkansas as indicated by Arkansas Cash Farm Receipts (NASS)
14	Sustainable, vibrant and globally competitive agricultural sector for Arkansas as indicated by Arkansas Net Farm Incomes (ERS)
15	Sustainable, vibrant and globally competitive agricultural sector for Arkansas as indicated by "Value of Agricultural Sector Production from Arkansas Farms"

Outcome #1

1. Outcome Measures

Number of Refereed Journal Publications

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	32

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices
602	Business Management, Finance, and Taxation
606	International Trade and Development
605	Natural Resource and Environmental Economics
611	Foreign Policy and Programs
112	Watershed Protection and Management
603	Market Economics
610	Domestic Policy Analysis
601	Economics of Agricultural Production and Farm Management

Outcome #2

1. Outcome Measures

Number of producers who have an increased understanding of farm and risk management

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	573

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
606	International Trade and Development
611	Foreign Policy and Programs
601	Economics of Agricultural Production and Farm Management
610	Domestic Policy Analysis
112	Watershed Protection and Management
605	Natural Resource and Environmental Economics
603	Market Economics
604	Marketing and Distribution Practices

Outcome #3

1. Outcome Measures

Number of participants who complete basic financial management education programs

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	800	4412

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #4

1. Outcome Measures

Number of participants who: Increase knowledge of budget development, increase knowledge of money management, increase knowledge of wise use of credit, and/or increase knowledge of consumer protection

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	700	1003

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #5

1. Outcome Measures

Number of producers that implemented changes in management practices as a result of farm management educational efforts

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	263

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
606	International Trade and Development
112	Watershed Protection and Management

601	Economics of Agricultural Production and Farm Management
603	Market Economics
610	Domestic Policy Analysis
604	Marketing and Distribution Practices
602	Business Management, Finance, and Taxation
611	Foreign Policy and Programs

Outcome #6

1. Outcome Measures

Number of producers that implemented changes in management practices as a result of farm policy educational efforts

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
606	International Trade and Development
605	Natural Resource and Environmental Economics
603	Market Economics
602	Business Management, Finance, and Taxation
604	Marketing and Distribution Practices
601	Economics of Agricultural Production and Farm Management
610	Domestic Policy Analysis
112	Watershed Protection and Management
611	Foreign Policy and Programs

Outcome #7

1. Outcome Measures

Number of producers that implemented changes in management practices as a result of commodity marketing educational efforts

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	316

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
610	Domestic Policy Analysis
606	International Trade and Development
611	Foreign Policy and Programs
603	Market Economics
605	Natural Resource and Environmental Economics
112	Watershed Protection and Management
602	Business Management, Finance, and Taxation
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #8

1. Outcome Measures
Number of Farmers Markets

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	23	48

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area

604	Marketing and Distribution Practices
603	Market Economics
602	Business Management, Finance, and Taxation

Outcome #9

1. Outcome Measures

Number of participants who adopt one or more of the following practices: Set financial goals, calculate net monthly income, develop a spending plan, keep financial records (including, but not limited to household account record and expense record)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	650	443

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #10

1. Outcome Measures

Percentage of participants reporting an increase in savings

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	40	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Savings rates are at historically low levels. Consumers without savings are particularly at risk for financial distress.

What has been done

County agents conducted educational programs to motivate and instruct consumers to save money. One agent conducted a driver safety course to help seniors save money on auto insurance.

Results

345 set savings goals. 208 started savings accounts or increased savings amount. 60 increased money put into an investment plan. 44 Seniors completed and 8-hour driver safety course. These participants will collectively save approximately $15,000 to $20,000 in auto insurance premiums over the next three years due to discounts received for their completion of this course.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #11

1. Outcome Measures

Percentage of participants reporting a decrease in debt

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	59

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In November of 2007, Americans had 937 million dollars in revolving debt (Federal Reserve Statistical Release). High rates of consumer debt and low rates of savings make households vulnerable to financial instability.

What has been done

County Extension Agents conducted educational programs to motivate and inform consumers about debt management.

Results

683 participants reported an increased understanding of how to identify warning signs of debt trouble. 59 participants reported a decrease in debt. 17 reduced debt load to less than 20% of income.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #12

1. Outcome Measures

Number of non-business bankruptcy filers statewide (for 2011 compared to 2007)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	23264	10691

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #13

1. Outcome Measures
Sustainable, vibrant and globally competitive agricultural sector for Arkansas as indicated by Arkansas Cash Farm Receipts (NASS)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7203858	6146069

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
610	Domestic Policy Analysis
605	Natural Resource and Environmental Economics
611	Foreign Policy and Programs
602	Business Management, Finance, and Taxation
603	Market Economics
606	International Trade and Development
112	Watershed Protection and Management

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

Outcome #14

1. Outcome Measures

Sustainable, vibrant and globally competitive agricultural sector for Arkansas as indicated by Arkansas Net Farm Incomes (ERS)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3242643	1950873

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
604	Marketing and Distribution Practices
601	Economics of Agricultural Production and Farm Management
611	Foreign Policy and Programs
603	Market Economics
610	Domestic Policy Analysis
605	Natural Resource and Environmental Economics
602	Business Management, Finance, and Taxation
606	International Trade and Development

Outcome #15

1. Outcome Measures

Sustainable, vibrant and globally competitive agricultural sector for Arkansas as indicated by "Value of Agricultural Sector Production from Arkansas Farms"

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7458315	6980599

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
604	Marketing and Distribution Practices
610	Domestic Policy Analysis
601	Economics of Agricultural Production and Farm Management
603	Market Economics
605	Natural Resource and Environmental Economics
606	International Trade and Development
611	Foreign Policy and Programs
602	Business Management, Finance, and Taxation

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

The number of educational products and materials was much lower than planned because there were not election ballot issues requiring development of ballot issues materials during the year.

The following outcome measures do not show the true impact of our program due to adequate data not being collected: Number of producers who have an increased understanding of farm and risk management; Number of producers that implemented changes in management practices as a result of farm management educational efforts; Number of producers that implemented changes in management practices as a result of farm policy educational efforts; and Number of producers that implemented changes in management practices as a result of commodity marketing educational efforts.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)

Evaluation Results

Post program evaluation results show that clientele learned about the need for community development and entrepreneurship as an economic development strategy.

Key Items of Evaluation

Community Development Principles
Home based business entrepreneurshp

Program #6

V(A). Planned Program (Summary)

1. Name of the Planned Program

Food, Nutrition & Health

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
502	New and Improved Food Products	5%		5%	
503	Quality Maintenance in Storing and Marketing Food Products	5%		5%	
504	Home and Commercial Food Service	5%		5%	
701	Nutrient Composition of Food	5%		5%	
703	Nutrition Education and Behavior	50%		50%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sourc	5%		5%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	5%		5%	
723	Hazards to Human Health and Safety	5%		5%	
724	Healthy Lifestyle	5%		5%	
806	Youth Development	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	73.0	0.0	12.0	0.0
Actual	86.8	0.0	22.9	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
888709	0	902721	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
888709	0	910123	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
5811141	0	8639424	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Commercial Food Safety & Processing:
Improved food processing efficiency through an improved understanding of food chemistry
Determined the impact of food processing systems on product quality and food safety attributes
Developed new food products that utilize Arkansas raw products
Increased the research base on improved food processing systems to minimize food pathogens
Improve detection systems for Listeria, Salmonella and other major food pathogens

Developed new food products that have improved nutritional content
Conducted monthly HACCP Round Table meeting.
Conducted food safety workshops.
Conducted Better Process Control School
Conducted Labeling workshop.
Conducted the ServSafe workshop.
Provided online distance education in food safety and manufacturing
Conducted new product development workshop
Provided assistance to small food companies and entrepreneurs in the form of services, nutritional labeling, and consulting.
Conducted culinary workshop
Conducted research

Health: Division of Agriculture faculty developed, evaluated, and disseminated education programs and curricula that incorporated new research and emphasized healthy lifestyles. Programs Included:
Walk Across Arkansas (Adults and Youth)
Strong Women
Journey to Wellness
ServSafe
Aging in Place

Nutrition:
Extension faculty reached target audiences through the following nutrition education programs:
Food Stamp Nutrition Education
Expanded Food and Nutrition Education Program
Eating and Moving for Life
Reshape Yourself Healthy Weight Program
Right Bite Cooking School
Delta HOPE Initiative
Strong Women Healthy Hearts (Pilot Research Project)

A MOA was developed with the University of Arkansas Pine Bluff-Extension to assist with the development and implementation of the 1890 Expanded Foods and Nutrition Education Program. The program was implemented in Monroe and Phillips County under the direction of the county UAEX staff. The state UAEX FCS specialist responsible for the 1862 EFNEP initiative provided the guidance, support and program management for the 1890 initiative. Two program assistants were hired to work with youth and adults within the two counties.

2. Brief description of the target audience
Food Companies
Entrepreneurs & Restaurants
Food Service Employees and/or Food Handlers
Limited Resource Adults & Youth
Minority Adults & Youth
Overweight Adults & Youth
Seniors
Employers & Employees
Child Care Providers
Homeowners
School Teachers, Faculty and staff
Other researchers
Students
Extension Specialists
Teaching Faculty
Research funding personnel and agencies
General Public

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	96150	104063	202500	8000
2007	141572	230064	295996	3027

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

Patent Applications Submitted

Year	Target
Plan:	2
2007 :	2

Patents listed

1) Apparatus and Method for Predicting Meat Tenderness - Jean F Meullenet. U.S. Provisional Patent Application # 60/846,214

2) Organic Acids incorporated edible Antimicrobial films. - Navam S Hettiarachchy and Eswaranandam Satchithanandam. Patent # U.S> 7,160,580, B2.

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	82	82

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of grants written and funded in support of Food, Nutrition & Health programming & research

Year	Target	Actual
2007	6	79

Output #2

Output Measure

- Number of Food, Nutrition & Health educational sessions

Year	Target	Actual
2007	7000	21324

Output #3

Output Measure

- Number of Food, Nutrition & Health educational exhibits/displays

Year	Target	Actual
2007	550	1209

Output #4

Output Measure

- Number of news articles written in support of Food, Nutrition & Health programs

Year	Target	Actual
2007	615	447

Output #5

Output Measure

- Number of field demonstrations conducted to document the effectiveness of scientifically based production information

Year	Target	Actual
2007	5	105

Output #6

Output Measure

- Number of consumers participating in educational short courses or meetings related to sanitation and safety in food handling

Year	Target	Actual
2007	620	2348

Output #7

Output Measure

- Number of participants in educational programs leading to certification for food handlers (ServSafe & Better Process Control School)

Year	Target	Actual
2007	535	1297

Output #8

Output Measure

- Number of participants in health related educational classes, workshops, seminars and field demonstrations

Year	Target	Actual
2007	10514	36351

Output #9

Output Measure

- Number of participants in monthly HACCP roundtable

Year	Target	Actual
2007	30	30

Output #10

Output Measure

- Number of ServSafe classes offered

Year	Target	Actual
2007	20	53

Output #11

Output Measure

- Number of hits on Food, Nutrition & Health websites

Year	Target	Actual
2007	300	26101

Output #12

Output Measure

- Number of non-duplicated Food, Nutrition & Health 4-H Youth programs delivered

Year	Target	Actual
2007	200	271

Output #13

Output Measure

- Number of non-duplicated participants in Food, Nutrition & Health 4-H Youth programs

Year	Target	Actual
2007	59000	116518

Output #14

Output Measure

- Number of Food, Nutrition & Health in-service trainings conducted

Year	Target	Actual
2007	10	139

Output #15

Output Measure

- Number of Arkansas Commodity Board Grants

Year	Target	Actual
2007	4	14

Output #16

Output Measure

- Number of federal grants and contracts

Year	Target	Actual
2007	6	16

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Number of 4-H Youth awarded post secondary scholarships related to foods, nutrition, and health
2	Percent of participants who report an improved quality of life as a result of using a targeted personal development behavior
3	Number of research projects conducted related to Food, Nutrition & Health
4	Number of participants who indicated that they increased their knowledge related to Food, Nutrition & Health following an educational class, seminar, or workshop
5	Number of participants receiving certification for Better Process Control School
6	Percent of participants who increased knowledge of chronic disease prevention
7	Number of participants who indicate that they have gained new knowledge on a targeted personal development behavior
8	Number of 4-H Journals completed in Food, Nutrition & Health
9	Number of 4-H Youth projects completed in Food, Nutrition & Health
10	Number of 4-H Youth participants who learned self-responsibility life skill
11	Number of 4-H Youth participants who learned healthy lifestyles life skill
12	Percent increase in knowledge of healthy food choices among nutrition program participants
13	Percent of county and state Extension FCS/Nutrition educators and other public and private representatives involved in discussions regarding public and organizational policies, regulations and industry practices that are barriers to dietary quality and physical activity
14	Number of Refereed Journal Publications
15	Number of food service managers who report improved food handling practices within a commercial establishment
16	Number of growers, producers, distributors, or retailers implementing one or more practices to minimize food safety hazards
17	Percent of individuals who increased walking activities from less than 3 times per week to 3 or more times per week as a result of completing an Extension program
18	Percent of individuals that exchanged at least two unhealthy lifestyles for healthy ones as a result of completing an Extension program
19	Percent of individuals who increased strength training activities from less than 3 times per week to 3 or more times per week as a result of completing Extension program
20	Percent of individuals who increased aerobic exercise activities from less than 3 times per week to 3 or more times per week as a result of completing an Extension program
21	Percent of individuals who reported they now get 30 minutes of moderate physical activity on most days as a result of completing an Extension program
22	Number of food processing and safety laboratory services provided
23	Number of Nutrition labels developed
24	Percent of participants adopting a targeted personal development behavior
25	Number of journal articles accepted
26	Percent increase in adoption of healthy food practices among nutrition program participants
27	Percent increase in use of a variety of food resources to reduce costs among nutrition program participants
28	Number of county and state Extension FCS/Nutrition educators involved with other public and private representatives in discussions regarding needed changes in laws, policies, and practices related to dietary quality and physical activity
29	Number participants reporting reduction in body weight after completing a nutrition education program
30	Number of participants reporting a reduction in blood pressure after completing a nutrition education program
31	Number of participants reporting a reduction in blood cholesterol after completing a nutrition education program
32	Number of participants reporting a reduction in blood glucose after completing a nutrition education program
33	Number of revised and or adoption of new public laws and organizational policies and practices that support sustained improvement of diet quality and physical activity for Arkansas citizens

34	Business start ups
35	Number of new food businesses started

Outcome #1

1. Outcome Measures

Number of 4-H Youth awarded post secondary scholarships related to foods, nutrition, and health

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	9

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
806	Youth Development
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #2

1. Outcome Measures

Percent of participants who report an improved quality of life as a result of using a targeted personal development behavior

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Faculty member retired, and data was never collected nor analyzed.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

Number of research projects conducted related to Food, Nutrition & Health

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	17	69

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
502	New and Improved Food Products
701	Nutrient Composition of Food
723	Hazards to Human Health and Safety
703	Nutrition Education and Behavior
504	Home and Commercial Food Service
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sourc
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
503	Quality Maintenance in Storing and Marketing Food Products
724	Healthy Lifestyle

Outcome #4

1. Outcome Measures

Number of participants who indicated that they increased their knowledge related to Food, Nutrition & Health following an educational class, seminar, or workshop

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	22000	30222

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
701	Nutrient Composition of Food
703	Nutrition Education and Behavior
503	Quality Maintenance in Storing and Marketing Food Products
723	Hazards to Human Health and Safety
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
502	New and Improved Food Products
724	Healthy Lifestyle

Outcome #5

1. Outcome Measures
Number of participants receiving certification for Better Process Control School

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	28	32

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The food industry of Arkansas needs continuous training to remain globally competitive. Workshops and training sessions offered and conducted will allow them to remain prosperous and competitive.

What has been done

The Institute of Food Science & Engineering at the University of Arkansas has been offering the Better Process Control School (BPCS) since 1973 which is one of the oldest in the nation and required for FDA controlled canning industries. Twenty-eight BPCS are offered each year, and historically Arkansas is the only contiguous state except for Texas offering the program.

Results

Since starting the Better Process Control School at the University of Arkansas in 1973, over 2,300 people have been certified mostly from major canning companies in the region. This allows for these Arkansas-based companies to train a large number of their employees at a reduced cost since travel costs are reduced. For the University of Arkansas, the Better Process Control School has served as a springboard to other food-related workshops for industry to include food safety, food defense, food labeling, microbiology, sensory evaluation and other courses under development. Six additional food-related workshops that reached 250 people per class was the end-product of efforts expended as an outreach of the Better Process Control School.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #6

1. Outcome Measures

Percent of participants who increased knowledge of chronic disease prevention

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	60	96

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #7

1. Outcome Measures

Number of participants who indicate that they have gained new knowledge on a targeted personal development behavior

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	4800	401

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #8

1. Outcome Measures
Number of 4-H Journals completed in Food, Nutrition & Health

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	130	111

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
701	Nutrient Composition of Food
703	Nutrition Education and Behavior
806	Youth Development

Outcome #9

1. Outcome Measures

Number of 4-H Youth projects completed in Food, Nutrition & Health

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	200	230

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Based on research young people require life-building skills such as self-awareness, when they are the most impressionable. The key to building successful lives, communities and civilizations is through the attainment of lifeskills.

What has been done

The 4-H RACE Day Challenge targeted emerging leaders ages 9-13 in 4-H clubs in a four-county area. The mini-conference used a race car theme, but the emphasis was on building assets.

Results

RACE is an acronym for Recognizing Assets Creates Enrichment. Each session was tied to the theme: Races Begin with the Pit Crew (Building Assets), Maintenance Keeps You in the Race (Health), Fueling Up to Burn Rubber (Nutrition) and In the Driver's Seat (Self Awareness). Each session included both information and hands-on activities to reinforce the learning. Survey results showed 96% indicated they would choose more fruits and vegetables and more calcium rich foods for snacks, while 86% indicated they planned to increase daily exercise. The reasons given included 60% who indicated they wanted to be healthy and 26% who indicated they did not want to be overweight. Seventy percent recognized the statement'I enjoy family activities with those I love' as an external asset. Following the 4-H RACE Day Challenge, 30% of the participants have identified at least one of their personal strengths as helping others.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
806	Youth Development
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #10

1. Outcome Measures

Number of 4-H Youth participants who learned self-responsibility life skill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	225	5139

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
806	Youth Development

Outcome #11

1. Outcome Measures

Number of 4-H Youth participants who learned healthy lifestyles life skill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	11864

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #12

1. Outcome Measures

Percent increase in knowledge of healthy food choices among nutrition program participants

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	55	92

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
701	Nutrient Composition of Food
724	Healthy Lifestyle

Outcome #13

1. Outcome Measures
Percent of county and state Extension FCS/Nutrition educators and other public and private representatives involved in discussions regarding public and organizational policies, regulations and industry practices that are barriers to dietary quality and physical activity

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	33

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
703	Nutrition Education and Behavior
724	Healthy Lifestyle

701	Nutrient Composition of Food

Outcome #14

1. Outcome Measures

Number of Refereed Journal Publications

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	82

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The need for advanced food research to support Arkansas' vast food processing industries remains paramount to improving the state's economy. The types of food research include harvest, storage, processing and nutritional quality.

What has been done

The University of Arkansas Food Science Department of the Bumpers College and the Division of Agriculture was recently ranked fourth nationally for faculty scholarly productivity by Academics Analytics.

Results

The UA Food Science Department's ranking testifies to its productivity in food research in aiding food processing in Arkansas. In addition, the well-trained Food Science Department graduates are hired by food processors in Arkansas assuring the continued success of Arkansas food processing industries. Peer-review articles appeared regularly in the Journal of Food Science and Journal of Food Protection.

4. Associated Knowledge Areas

KA Code	Knowledge Area
503	Quality Maintenance in Storing and Marketing Food Products
723	Hazards to Human Health and Safety
504	Home and Commercial Food Service
502	New and Improved Food Products
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
701	Nutrient Composition of Food
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sourc

Outcome #15

1. Outcome Measures

Number of food service managers who report improved food handling practices within a commercial establishment

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	40	159

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

According to the Centers for Disease Control, 76% of all incidences of food poisoning come from eating in restaurants. Many of these incidents of food poisonings can be prevented by certain procedures taught at a program called 'ServSafe'.

The Arkansas State Health Department has identified language as a barrier when working with a growing Hispanic audience (employees and food service managers). The most prevalent issue is communicating the standard set by state and federal guidelines.

What has been done

The ServSafe program was implemented as a vehicle to reach a Hispanic audience with limited language skills in the Northwest counties within the state. Several classes were offered especially for Hispanics with a language barrier, and course materials were purchased and disseminated in Spanish.

Results

ServSafe training in Washington and Benton Counties showed a reduced incidence of critical violations reported in the local newspaper. Test results for certification indicated that there was an increase in the pass rate for Hispanic participants, who received Spanish ServSafe course books and participated in classes designed specifically for that audience.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #16

1. Outcome Measures
Number of growers, producers, distributors, or retailers implementing one or more practices to minimize food safety hazards

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	35	127

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
703	Nutrition Education and Behavior

Outcome #17

1. Outcome Measures

Percent of individuals who increased walking activities from less than 3 times per week to 3 or more times per week as a result of completing an Extension program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	70	84

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #18

1. Outcome Measures

Percent of individuals that exchanged at least two unhealthy lifestyles for healthy ones as a result of completing an Extension program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	60	93

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #19

1. Outcome Measures

Percent of individuals who increased strength training activities from less than 3 times per week to 3 or more times per week as a result of completing Extension program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	65

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As women become chronologically older, they tend to lose muscle mass, bone density and flexibility and increase fat deposition. Much of the effects of these trends can be minimize and/or eliminated via exercise programs.

What has been done

The Strong Women Program is a multi-session strength-training program specifically for midlife and older women. It was designed to help participants increase strength, bone density, balance, energy and look and feel better. The program was implemented as a multi-session within counties to reach the target audience.

Results

Most program participants report increased flexibility, less winded when climbing stairs, less moody, restful sleep, loss of weight and improved balance. All participants reported that they feel either 'much better' or 'somewhat better' as a result of the class. Most also reported the feeling of more energy and better sleep.

Two hundred fifty-seven increased strength training activities from less than 3 times per week to 3 or more times per week as a result of completing an Extension program. After completing the Strong Women program, 1008 adults, or 89%, reported increased flexibility. As a result of the program, 87% reported increased body strength.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #20

1. Outcome Measures

Percent of individuals who increased aerobic exercise activities from less than 3 times per week to 3 or more times per week as a result of completing an Extension program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	70	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Proper denominator could not be determined. Faculty member retired mid-year, and the data is incomplete.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #21

1. Outcome Measures

Percent of individuals who reported they now get 30 minutes of moderate physical activity on most days as a result of completing an Extension program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	65	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #22

1. Outcome Measures

Number of food processing and safety laboratory services provided

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	45	90

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
502	New and Improved Food Products
504	Home and Commercial Food Service

Outcome #23

1. Outcome Measures

Number of Nutrition labels developed

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	105	65

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area

504	Home and Commercial Food Service
502	New and Improved Food Products

Outcome #24

1. Outcome Measures

Percent of participants adopting a targeted personal development behavior

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	65	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Faculty member retired, and data was not collected and analyzed.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #25

1. Outcome Measures

Number of journal articles accepted

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	83

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
502	New and Improved Food Products
724	Healthy Lifestyle
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sourc
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
503	Quality Maintenance in Storing and Marketing Food Products
504	Home and Commercial Food Service
703	Nutrition Education and Behavior
701	Nutrient Composition of Food
723	Hazards to Human Health and Safety

Outcome #26

1. Outcome Measures

Percent increase in adoption of healthy food practices among nutrition program participants

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In 2006, the overall obesity rate for adult Arkansans was 27 percent. The obesity rate is greater among low-income Arkansans where 29 percent are obese. Strong evidence exists that overweight children have a greater chance of becoming overweight or obese adults. In 2007, 38 percent of Arkansas' children in grades K-12 were overweight or at risk of being overweight.

What has been done

A school-based intervention program was implemented in schools where 50 percent or more of children were receiving free or reduced-price school meals. Four counties were recruited to implement the project. Teachers were trained in one elementary school in each county. Teachers conducted the TAKE 10! activities at least 3 times per week for 10 minutes at a time. OrganWise Guys materials were used as often as possible. A survey was sent home to 1,043 parents.

Results

Six hundred nine parents were surveyed. 71% of parents said their child had talked to them about healthy food or snacks.
56% of parents said their child had talked to them about being more active.
55% of parents said their child had asked for more or different fruits, vegetables, milk or yogurt since school started in the fall of 2006.
44% of parents said they had made changes in their family's eating and/or physical activity practices.

Of the parents who said they had made changes:
47% reported that the family drank more water
44% reported that the family ate more or different fruits
42% reported that the family was more active
38% reported that the family ate more dairy foods
37% reported that the family ate more high-fiber, whole-grain foods
37% reported that the family ate less high-fat/fried foods
35% reported that the family drank less sugary drinks
33% reported that the family ate less salt/salty foods

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
703	Nutrition Education and Behavior
701	Nutrient Composition of Food

Outcome #27

1. Outcome Measures

Percent increase in use of a variety of food resources to reduce costs among nutrition program participants

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	69

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #28

1. Outcome Measures

Number of county and state Extension FCS/Nutrition educators involved with other public and private representatives in discussions regarding needed changes in laws, policies, and practices related to dietary quality and physical activity

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	27

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #29

1. Outcome Measures

Number participants reporting reduction in body weight after completing a nutrition education program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	256

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Obesity is a risk factor for four of the ten leading causes of death of Arkansans. Arkansas has one of the highest obesity rates in the nation with 27 percent of adults being obese and 37 percent overweight. Childhood obesity is also of concern with 38 percent of children in grades K-12 at risk for overweight of overweight. Annual medical expenditures related to obesity in Arkansas are in excess of $663 million. More than half of these dollars come from state and federal government sources.

What has been done

Seventeen county FCS agents conducted Reshape Yourself in FY07. The program emphasized a three-part approach to weight management: a sensible, balanced diet that fits individual lifestyles; regular, enjoyable physical activities; and long-term, diet-related behavior changes. Participants learned to plan balanced diets based on MyPyramid, balance calorie intake with calorie expenditure, read food labels, recognize foods high in calories and fat, and find enjoyable ways to be physically active.

Results

467 people participated in Reshape Yourself (71% graduation rate)
99% of participants indicated a positive attitude change related to food and nutrition
79% of participants reported altering behavior to follow standard serving sizes
87% of participants reported increased use of food labels
265 participants reported weight change
50% of participants decreased weight
56% of participants maintained body weight
2,195 pounds were lost
20,916 miles were walked
100% of participants reported an increase in walking
40% of participants reported increased strength training

Of participants who were asked about or screened for blood pressure, cholesterol and glucose:
43% decreased blood pressure
58% decreased blood cholesterol
43% decreased blood glucose

Of participants who were asked about changes in medication: 28% reported their doctor had reduced or eliminated prescribed medication as a result of change made.

4. Associated Knowledge Areas

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

Outcome #30

1. Outcome Measures

Number of participants reporting a reduction in blood pressure after completing a nutrition education program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	462

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area

724	Healthy Lifestyle
703	Nutrition Education and Behavior

Outcome #31

1. Outcome Measures

Number of participants reporting a reduction in blood cholesterol after completing a nutrition education program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	125

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Cardiovascular disease (CVD) is the leading cause of death and disability for women in the U.S. and in Arkansas. The direct and indirect costs of CVD in the US are estimated to be over $430 billion. As the American population ages, the burden of CVD will continue to increase. Lifestyle modifications at any age will reduce risk, even in mid-life and older adults. Health disparities are more pronounced in rural areas, especially those related to poor diet and insufficient physical activity.

What has been done

A community-based Strong Women Healthy Hearts program was designed to reduce cardiovascular disease risk factors in overweight, sedentary midlife and older women. Four county FCS agents in Arkansas were selected to participate in this study. Two were intervention counties, and two were control counties. Intervention subjects participated in a twice-weekly 12-week program that included walking or aerobic dance and behavioral strategies to increase physical activity and heart-healthy eating.

Results

Compared to controls, intervention subjects reported larger decreases in energy intake and sweets servings per day; and increased fruit and vegetable servings per day. The intervention group increased average steps per day compared to a decrease in controls. Self-efficacy for dietary and physical activity behaviors increased significantly in the intervention group. BMI, body weight and waist circumference decreased in intervention subjects and increased in control subjects.

In the intervention group (n=25):
Average BMI decreased by 0.58 units,
Average weight loss was 3.6 pounds,
Average waist circumference decreased by 1.67 inches,
Average hip circumference decreased by 1.43 inches,
Average daily calorie intake decreased by 450 kcal,
Average steps per day increased by 2,460,
Average saturated fat intake decreased by 1.5% of total calories.

4. Associated Knowledge Areas

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

Outcome #32

1. Outcome Measures

Number of participants reporting a reduction in blood glucose after completing a nutrition education program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	103

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #33

1. Outcome Measures

Number of revised and or adoption of new public laws and organizational policies and practices that support sustained improvement of diet quality and physical activity for Arkansas citizens

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area

703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #34

1. Outcome Measures

Business start ups

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	9

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
502	New and Improved Food Products
504	Home and Commercial Food Service

Outcome #35

1. Outcome Measures

Number of new food businesses started

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	9

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
502	New and Improved Food Products
504	Home and Commercial Food Service

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

Factors that affected the outcomes of planned programs are as follows:
•Health faculty FTE reduction due to retirement impacted health education programs, ServSafe trainings and the collection of data. •New FTE in gerontology expanded the health-related programs to include areas that addressed a growing aging population. •The EFNEP initiatives experienced an expansion due to concentrated efforts focusing on the Hispanic audience. •External funding impacted the degree in which programs were expanded.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Other (BMI measures)

Evaluation Results

Participants were evaluated using multiple tools to determine the outcome of the various programs. These tools included retrospective evaluations with nutrition and health program participants, behavior and knowledge assessments with in-school youth. Health screenings were used to measure blood glucose, high blood pressure and cholesterol; and an intervention/control group study was conducted with midlife and older women. BMI assessments were also used with study participants. End of program testing was used to determine pass/fail rate of participants seeking certification in food safety and ServSafe programs.

Key Items of Evaluation

Outcome data from program participants included in pre/post health screenings for cholesterol and glucose indicated:

•304 program participants decreased blood glucose levels as a result of completing an Extension health program,

•32 program participants decreased blood cholesterol as a result of completing an Extension health program, •6 participants reduced their medication or eliminated prescribed medication as a result of completing an Extension health program.

Behavior and knowledge assessments proved to be useful to determine participant outcome for those enrolled in the Arkansas Hope Project. Assessments indicated that participants in the five participating schools increased activity by an average of 9.5 hours over the 2006-2007 school year. The parent survey (n=609) revealed that 44% of parents stated that they made changes in their family's eating and/or physical activity practices as a result of what their child had learned. Fifty-five percent of parents stated that their child had asked for more or different fruits, vegetables, milk or yogurt since the program started in the fall.

The intervention/control group study indicated that compared to the controls, intervention subjects reported larger decreases in energy intake and sweets servings per day. BMI, body weight and waist circumferences decreased in intervention subjects and increased in control subjects.

Program #7

V(A). Planned Program (Summary)

1. Name of the Planned Program

Natural Resources & Environment

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	5%		5%	
102	Soil, Plant, Water, Nutrient Relationships	5%		5%	
111	Conservation and Efficient Use of Water	10%		10%	
112	Watershed Protection and Management	15%		15%	
123	Management and Sustainability of Forest Resources	25%		25%	
124	Urban Forestry	5%		5%	
133	Pollution Prevention and Mitigation	15%		15%	
135	Aquatic and Terrestrial Wildlife	5%		5%	
605	Natural Resource and Environmental Economics	15%		15%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	15.0	0.0	12.0	0.0
Actual	14.9	0.0	21.7	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
209880	0	682276	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
209880	0	687871	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1372373	0	7130455	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

4-H Rice for Ducks programs
Arkansas Acres for Wildlife
Continued education and development support for Farm and Home*A*Syst educational materials
Continued leadership development efforts in the "Building Common Ground" and "Conflict Resolution
Environmental management educational programs
Geographic Information Systems (GIS) and Geographic Positioning Systems (GPS) training
Master Farmer Curriculum is being developed for workshops
Nutrient Management Training notebook for certification training
Nutrient Management Planning Guide for certification training
Nutrient Management Website
Nutrient applicator guide for certification training
Nutrient applicator training notebook for certification training
Nutrient Management Fact sheets
Nutrient management planning workshops
One-on-one consultations
Nutrient applicator workshops
Field Days
Farm Visits
Demonstrations
Educational Meetings
Farm*A*Syst/Home*A*Syst
Link to the Southern Region SARE program
Natural resource conservation and environmental protection education
News-articles
Newsletter
Water, forage, hay, manure, and soil testing
Watershed water quality projects
Well testing
Wildlife education
Geographic Information Systems (GIS) and Geographic Positioning Systems (GPS) training
Water conservation education programs conducted in "Critical Water Use Areas"
Precision agriculture
Reducing urban non-point source pollution through proper lawn care
Small farm programs
Watershed water quality projects
Web-based Education
Water conservation through proper irrigation management and scheduling

2. Brief description of the target audience

4-H Club Youth
Agri Business
Row Crop Agricultural Producer Organizations
Row Crop Agricultural Producers
Certified Crop Advisors
Conservation District Directors
Consultants
Landowners
School Youth
State Agency personnel
Watershed Organizations
Wildlife Organizations
Private nutrient applicator
Commercial nutrient applicator
Livestock producers
Livestock industry personnel
Livestock producer organizations
General public
Other researchers
Students
Extension specialists
Teaching faculty
Research funding personnel and agencies

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	5000	185000	0	0
2007	4256	4420	2338	0

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

Patent Applications Submitted

Year	Target
Plan:	1
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	83	83

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of clientele participating in educational meetings, workshops, and seminars for row crop agriculture

Year	Target	Actual
2007	450	87

Output #2

Output Measure

- Number of plan writers trained

Year	Target	Actual
2007	50	51

Output #3

Output Measure

- Number of private nutrient applicators trained

Year	Target	Actual
2007	1000	360

Output #4

Output Measure

- Number of commercial applicators trained

Year	Target	Actual
2007	100	20

Output #5

Output Measure

- Educational meetings, demonstrations, farm visits, and/or field days held to educate clientele on uses of GIS and GIS applications in production agriculture (i.e., yield monitoring, product evaluation, grid soil sampling, disease scouting, and field

Year	Target	Actual
2007	20	7

Output #6

Output Measure

- Educational meetings, demonstrations, farm visits, and/or field days held to educate clientele on uses of GIS and GPS in natural resource management (i.e. forest management, watershed characterization, water quality protection, wetland protection

Year	Target	Actual
2007	15	18

Output #7

Output Measure

- Number of clientele participating in GIS and GPS educational meetings, workshops, and seminars

Year	Target	Actual
2007	100	260

Output #8

Output Measure

- Number of adult participants who attend presentations, workshops or other public outreach educational programs related to water quality, watershed dynamics, aquatic ecology or pollution prevention

Year	Target	Actual
2007	2000	26752

Output #9

Output Measure

- Number of Cooperative Extension Service educational printed materials requested and/or distributed related to water quality, watershed dynamics, and aquatic

Year	Target	Actual
2007	3000	3010

Output #10

Output Measure

- Hazardous household wastes (tons) collected at community collection or drop-off sites such as pesticides, fertilizer, paint, automotive fluids, solvents, cleaners, tires, batteries, etc.

Year	Target	Actual
2007	20	4

Output #11

Output Measure

- Number of households potentially impacted by educational efforts

Year	Target	Actual
2007	800	74918

Output #12

Output Measure

- Number of Cooperative Extension Service public outreach programs related to groundwater quality, groundwater dynamics or pollution prevention

Year	Target	Actual
2007	10	905

Output #13

Output Measure

- Number of adult participants who attend presentations, workshops or other public outreach educational programs related to groundwater quality, groundwater dynamics or pollution prevention

Year	Target	Actual
2007	1800	18399

Output #14

Output Measure

- Number of personal contacts including individual requests for information related to groundwater quality, groundwater dynamics, water quality, watershed

Year	Target	Actual
2007	1000	52965

Output #15

Output Measure

- Number of Cooperative Extension Service educational printed materials requested and/or distributed related to groundwater, groundwater dynamics or pollution prevention

Year	Target	Actual
2007	3000	3008

Output #16

Output Measure

- Number of backflow prevention devices installed in groundwater wells

Year	Target	Actual
2007	50	0

Output #17

Output Measure

- Number of Cooperative Extension Service public outreach programs related to groundwater resources, aquifer depletion or water conservation

Year	Target	Actual
2007	10	314

Output #18

Output Measure

- Number of participants who attend presentations, workshops, school programs, camps or other public outreach educational programs related to groundwater resources, aquifer depletion or water conservation

Year	Target	Actual
2007	5000	1125

Output #19

Output Measure

- Number of personal contacts including individual requests for information related to groundwater resources, aquifer depletion or water conservation

Year	Target	Actual
2007	1000	315

Output #20

Output Measure

- Number of Cooperative Extension Service educational printed materials requested and/or distributed related to groundwater resources, aquifer depletion or water conservation

Year	Target	Actual
2007	5000	0

Output #21

Output Measure

- Number of Cooperative Extension Service public outreach programs related to stormwater education

Year	Target	Actual
2007	50	314

Output #22

Output Measure

- Number public outreach educational programs related to stormwater management

Year	Target	Actual
2007	30	314

Output #23

Output Measure

- Number of Cooperative Extension Service educational printed materials requested and/or distributed related to stormwater management

Year	Target	Actual
2007	5000	1905

Output #24

Output Measure

- Number of educational meetings held with forestry industry representatives, State and Federal agency personnel, Arkansas Forestry Association, Arkansas Forest Resource Center and UA Cooperative Extension faculty to identify forest landowner education issues and plan education programs

Year	Target	Actual
2007	10	42

Output #25

Output Measure

- Number of landowner education meetings conducted

Year	Target	Actual
2007	20	14

Output #26

Output Measure

- Number of landowners attending workshops and educational meetings

Year	Target	Actual
2007	500	216

Output #27

Output Measure

- Number of demonstrations conducted

Year	Target	Actual
2007	20	75

Output #28

Output Measure

- Number of individuals attending demonstrations

Year	Target	Actual
2007	100	2023

Output #29

Output Measure

- Number of Forestry Field days

Year	Target	Actual
2007	6	14

Output #30

Output Measure

- Number of individuals attending field days

Year	Target	Actual
2007	400	239

Output #31

Output Measure

- Number of clientele receiving newsletters about forestry and forest management

Year	Target	Actual
2007	1000	1186

Output #32

Output Measure

- Number of county agents receiving the Arkansas Timber Market Report

Year	Target	Actual
2007	77	75

Output #33

Output Measure

- Number of radio stations carrying bi-monthly Arkansas Timber Market Report & Update

Year	Target	Actual
2007	24	20

Output #34

Output Measure

- Number of Arkansas Commodity Grants received

Year	Target	Actual
2007	5	18

Output #35

Output Measure

- Number of federal grants and contracts

Year	Target	Actual
2007	10	24

Output #36

Output Measure

- Number of communities that participate in workshops, school programs, camps or other

Year	Target	Actual
2007	50	233

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Number of refereed journal publications
2	Number of landowners indicating an increased knowledge of forest management for wildlife
3	Number of livestock operations impacted by educational efforts
4	Number of clientele who adopt GIS and GPS for natural resource management, watershed characterization, and general map making and spatial analysis
5	Number of clientele who adopt GIS and GPS for production agriculture purposes including aerial applicators
6	Number of clientele who adopt agricultural best management practices to reduce impact of row crop agriculture on surface water quality
7	Number of clientele who adopt best management practices to reduce impact of livestock agriculture on surface water quality
8	Number of business start ups
9	Number of acres impacted by Natural Resources & Environmental educational efforts

Outcome #1

1. Outcome Measures

Number of refereed journal publications

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	27

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Arkansas has 18.9 million acres of forest owned by more than 200,000 individuals. Arkansas' natural resources contribute to more than 250,000 jobs and more than $17 billion in value-added to Arkansas' economy. Research publications report knowledge created that enhances the sustainability and productivity of Arkansas' natural resources and protects the ecosystem services that provide clean air and water necessary for the health and welfare of the entire state population.

What has been done

Current research is establishing the quantity, quality, and value of ecosystem services such as water quality, wildlife habitat/populations, and carbon sequestration. Research in the application of fertilizers and herbicides to enhance productivity while protecting water and soil quality monitors and improves application methods. Biofuel feedstock production from in-forest, agriculture, and urban forest residues have been determined.

Results

New guidelines for herbicide and fertilization application have been developed in Arkansas. Markets for carbon sequestration for working forests in Arkansas have been established and landowners are receiving payments. Biomass feedstock estimates have determined that forest residues can supply biomass in sufficient amounts to displace between 20-30% of Arkansas' gasoline consumption. Urban-wildland interface issues have been identified and are being addressed by university-driven public policy discussions. Dynamics of habitat and wildlife populations continue to result in improved management guidelines resulting in sustained biological diversity and increased recreational opportunities throughout the state.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
124	Urban Forestry
101	Appraisal of Soil Resources
111	Conservation and Efficient Use of Water
605	Natural Resource and Environmental Economics
112	Watershed Protection and Management
135	Aquatic and Terrestrial Wildlife
102	Soil, Plant, Water, Nutrient Relationships
133	Pollution Prevention and Mitigation

Outcome #2

1. Outcome Measures

Number of landowners indicating an increased knowledge of forest management for wildlife

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	406

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Arkansas has 18.9 million acres of forestlands owned by >200,000 landowners. Arkansas' natural resources provide >250,000 jobs and generates approximately $17 billion annually in value-added to the states economy. Wildlife science creates knowledge that ensures the sustainability and enhances the productivity of Arkansas' forestlands and world-renowned wildlife populations, including waterfowl, black bear, white-tailed deer, and wild turkey.

What has been done

Wildlife research in Arkansas is currently dealing with issues relevant to the conservation and management of the states natural resources. Scientific tools are currently being developed (e.g., estimating population size of black bears in the Ouachita National Forest using hair capture, DNA profiling, and mark-recapture analysis) and the knowledge is being created (e.g., survival and causes of mortality of bull elk) to support sound natural resource management.

Results

Understanding the dynamics of wildlife populations, such as black bears, elk, and quail, continue to result in improved management guidelines resulting in sustained harvest management and increased recreational opportunities throughout the state. Wildlife research results are made available to forest landowners in a variety of formats, including: public workshops, field days, websites, fact sheets, radio and TV media, outdoor/nature magazine articles, and restaurant placemats.

4. Associated Knowledge Areas

KA Code	Knowledge Area
135	Aquatic and Terrestrial Wildlife
123	Management and Sustainability of Forest Resources

Outcome #3

1. Outcome Measures
Number of livestock operations impacted by educational efforts

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	150	2100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The loss of nutrients in runoff from applications of animal manures to pasture as fertilizer is an issue of great concern and interest in Northern and Western Arkansas. It has prompted new State nutrient management regulations, two federal lawsuits against the poultry industry and an increased concern to poultry producers over the long-term sustainability of their livelihood. According to the State's 303d list of impaired waters, few streams in Arkansas are impaired due to nutrients.

What has been done

A tremendous amount of research and education has been conducted by the University of Arkansas Division of Agriculture in an effort to help resolve this highly emotional issue. Some highlights include the development of a P-Index for poultry litter applications to pasture, the development and delivery of nutrient management planning training (over 140 planners trained) and nutrient applicator training (over 2600 nutrient applicators) as partial fulfillment of certification under new State laws.

Results

Our research and education efforts have impacted 2100 farms in some capacity ranging from increased knowledge about water quality concerns to the adoption of pollution prevention practices. Although we do not write nutrient management plans in our State, we have trained over 140 nutrient management planners as part of the requirements for State-certification. This has helped expedite the fulfillment of nutrient management plan requests at local conservation district offices. We also assist producers in implementing plans through soil testing, pasture and grazing management, BMP adoption, etc. The bulk of adoption of nutrient management plans on poultry farms has been within the past 3 years. Thus, we are just beginning to develop and implement research assessing the impact on poultry operations and water quality.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
605	Natural Resource and Environmental Economics

Outcome #4

1. Outcome Measures

Number of clientele who adopt GIS and GPS for natural resource management, watershed characterization, and general map making and spatial analysis

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	45

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Landowners and natural resource managers make decisions that effect not only the lands they manage but resources of adjacent and downstream lands. New technology in the form of GIS and GPS can assist theses managers in more accurate acreage estimates, producing high quality maps and as a tool for making decisions based on the best available data. However many of the decision makers are not aware of the technology and its uses or the data that is available to guide their decisions.

What has been done

Workshops that teach the uses of GIS software are conducted throughout the year and across the state. Introductory and advances courses are held in different venues, a wide variety of entities take advantage of theses courses. GPS training is also offered to a wide range of potential users from landowners, natural resource managers, teachers and students. These sessions are also offered across the state and throughout the year depending on the need. In both the GIS and GPS training courses the availability of data and its sources are discussed to allow users the potential to reach the rich source of data available free in Arkansas.

Results

Natural resource managers and landowners are exposed to the rich data available to them. The GIS software allows them to make more informed decisions and to accurately determine acreage and to delineate watersheds and other tasks that previously would not have been possible. GPS training has also helped in capturing data and helping with theses decisions and in creating better maps that describe these decisions and help the technical activities be correctly applied on the ground. Teachers and students trained to use the technology will help prepare the students to be better able to apply this technology.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
101	Appraisal of Soil Resources
111	Conservation and Efficient Use of Water
135	Aquatic and Terrestrial Wildlife
605	Natural Resource and Environmental Economics
124	Urban Forestry

Outcome #5

1. Outcome Measures

Number of clientele who adopt GIS and GPS for production agriculture purposes including aerial applicators

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	200	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Spatial technology allows users to more intensely characterize and manage agricultural land. Practical applications such as grid soil sampling, prescriptive applications of inputs, yield monitoring, scouting via remote sensing, etc. allow for better use and protection of our natural resources such as soil, water, and air quality. The on-farm utilization of this new technology will continue to increase in adoption.

What has been done

The University of Arkansas' Division of Agriculture is conducting research and technology transfer to improve data collection and management for on-farm applications of spatial technology. The technology has been introduced into existing programs such as Agricultural Aviation training while new programs have emerged such as yield monitoring clinics for producers and on-farm grid soil sampling demonstrations.

Results

The integration of on-farm spatial technology is becoming a reality in Arkansas. In some cases such as yield monitoring, the adoption is happening rapidly as row crop producers see tremendous potential in harvest data on an area as small as 1/100 of acre. The collection of more detailed information has led to an increase in questions from producers about the cause in harvest variability across the field. This is leading to a need for more refined crop production recommendations with respect to agricultural inputs, water management and pest scouting as well as a need for more training and technology transfer. As a result, the University of Arkansas' Division of Agriculture has created and filled a Spatial Technology faculty position. All 75 County Extension offices are now equipped hand held GPS units and ArcView GIS to assist landowners with spatial technology applications.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
101	Appraisal of Soil Resources

Outcome #6

1. Outcome Measures

Number of clientele who adopt agricultural best management practices to reduce impact of row crop agriculture on surface water quality

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Eastern Arkansas has hundreds of stream miles impaired by turbidity. EPA considers siltation from row crop agriculture as the leading source of stream impairments in Arkansas. The University of Arkansas is helping producers take voluntary measures against soil erosion including the adoption of conservation tillage, cover crops (including winter flooding of fields), and other conservation methods and is working closely with state and federal environmental and conservation organizations.

What has been done

The University of Arkansas Division of Agriculture is conducting field research on the effectiveness of selected BMPS in reducing sediment delivery from agriculture and conducting educational programs for agricultural producers including field demonstrations,workshops, field days, tours, and farm visits. Educational materials have been developed and distributed including Powerpoint presentations, handouts, and news articles. Presentations have been made at County production meetings.

Results

As a result of our research and educational efforts, we assume that row crop producers are implementing BMPS to reduce pollutant loads from crop production in the Mississippi Delta of Arkansas. However, we are not currently collecting data on adoption through our routine electronic record-keeping system. However, we know in general that the adoption of conservation tillage has been increasing over the past several years. We are currently evaluating strategies for collecting secondary data from other state and federal conservation agencies that can serve as indicators of adoption of BMPS. If we can find funding, we will conduct an extensive mailing or web-based post-only survey to collect this data.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
101	Appraisal of Soil Resources

133	Pollution Prevention and Mitigation
102	Soil, Plant, Water, Nutrient Relationships

Outcome #7

1. Outcome Measures

Number of clientele who adopt best management practices to reduce impact of livestock agriculture on surface water quality

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1200	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The loss of nutrients in runoff from applications of animal manures to pasture as fertilizer is an issue of great concern and interest in Northern and Western Arkansas. It has prompted new State nutrient management regulations, two federal lawsuits against the poultry industry and an increased concern to poultry producers over the long-term sustainability of their livlihood. According to the State's 303d list of impaired waters, few streams in Arkansas are impaired due to nutrients.

What has been done

A tremendous amount of research and education has been conducted by the University of Arkansas Division of Agriculture in an effort to help resolve this highly emotional issue. Some highlights include the development of a P-Index for poultry litter applications to pasture, the development and delivery of nutrient management planning training (over 140 planners trained) and nutrient applicator training (over 2600 nutrient applicators) as partial fulfillment of certification under new State laws.

Results

As a result of our research and educational efforts, we assume that livestock producers are implementing BMPS to reduce pollutant loads from pastures treated with poultry litter in the Ozark Highlands region of Arkansas. However, we are not currently collecting data on adoption through our routine electronic record-keeping system. However, we know in general that there has been a dramatic increase in nutrient management plans written for poultry operations. A nutrient managment plan is an important BMP as it recommends other BMPS that are taoilred to a specific operation. We are currently evaluating strategies for collecting secondary data from other state and federal conservation agencies that can serve as indicators of adoption of BMPS. If we can find funding, we will conduct an extensive mailing or web-based post-only survey to collect this data.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
133	Pollution Prevention and Mitigation
112	Watershed Protection and Management
101	Appraisal of Soil Resources
605	Natural Resource and Environmental Economics

Outcome #8

1. Outcome Measures

Number of business start ups

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	0

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 #9

1. Outcome Measures

Number of acres impacted by Natural Resources & Environmental educational efforts

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	35000	1650000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Providing households, nutrient applicators, landowners, farmers, and natural resource professionals the tools and knowledge necessary to implement sustainable natural resource management is a key goal of this program. An estimate of the acres actually impacted by our efforts helps stakeholders and the agency gage success.

What has been done

Various programs are delivered at county, state and regional levels. County agents and University faculty held over 400 natural resource education meetings, short-courses, workshops, field days, and demonstrations for households, landowners, farmers, natural resource professionals, and other stakeholders. Topics included wildlife habitat restoration, hardwood and pine management, wildlife food plots, nutrient management, best management practices, GIS/GPS applications, and storm water management.

Results

2,400 landowners received seed to establish wildlife food plots on 1,403,638 acres through the Acres for Wildlife Program, a partnership program between the Arkansas Game and Fish Commission and the UA, Division of Agriculture.

Over 380 commercial and private nutrient applicators were trained regarding pollution prevention and water quality protection.

17,000 residents in eight urbanized areas identified as Phase II areas (including 48 cities/towns and 13 unincorporated areas in 13 counties) were educated about stormwater runoff mitigation, illicit discharge detection and elimination, runoff control, and pollution prevention.

70 workshops and four field days were conducted that focused on forest management topics including hardwood establishment and management, pine management, timber taxation, wildlife enterprises, carbon credits, GPS technology, and timber marketing. Over 2,470 landowners, farmers, and natural resource professionals attended these events.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
124	Urban Forestry
605	Natural Resource and Environmental Economics
135	Aquatic and Terrestrial Wildlife
101	Appraisal of Soil Resources
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water
133	Pollution Prevention and Mitigation

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Program delivery was shifted several times through the year because of the need to supply immediate information to constituents and county agents. Additionally, programs have been refocused to deal with the broad range of biofuel topics that require a global shift of effort.

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

1. Evaluation Studies Planned

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

Evaluation Results

Results of programs are conducted by participants at the conclusion of all programs. Additionally, the united conducted two programmatic reviews in 2007. One included Cooperative Extension Service staff and administration along with the Arkansas Game and Fish Commission personnel to determine program efficacy. Second, an internal program review was conducted at two levels within Cooperative Extension Service. Some programs will be dropped in the future. Others will be scaled back while still others will be expanded.

Key Items of Evaluation

Program participant evaluations along with cooperator and internal reviews will assist in determining the future direction of all programs.

Program #8

V(A). Planned Program (Summary)

1. Name of the Planned Program

Pest Management

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
211	Insects, Mites, and Other Arthropods Affecting Plants	10%		10%	
212	Pathogens and Nematodes Affecting Plants	10%		10%	
216	Integrated Pest Management Systems	30%		30%	
312	External Parasites and Pests of Animals	20%		20%	
403	Waste Disposal, Recycling, and Reuse	10%		10%	
721	Insects and Other Pests Affecting Humans	10%		10%	
723	Hazards to Human Health and Safety	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	28.0	0.0	20.0	0.0
Actual	30.6	0.0	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
396804	0	128507	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
396804	0	129561	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2594642	0	774870	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The University of Arkansas Division of Agriculture research program in pest management did reduce the impacts of major pests by:

« Increased the knowledge base on major pests, diseases, and weeds of importance to Arkansas
« Developed improved crop protection strategies and technologies for our major crop systems.
« Integrated new knowledge in plant and animal genomics and basic science into the development new pest management strategies.

Extension Pest Management education was delivered through the following programs and methods, targeting issues specific to Arkansas:

« The Cotton Nematode and Disease Management Program supported and assisted county extension programs in the state, particularly the Delta region to better identify, understand, and manage major cotton diseases in Arkansas.
« The Pesticide Applicator Training Program provided initial certification and recertification training sessions for private and commercial/non-commercial pesticide applicators statewide each year. County agricultural Extension agents provided the training for private applicators (farmers), and the pesticide assessment specialist was responsible for training the commercial/non-commercial applicators.
« The Rice and Soybean IPM Programs offered simple grant funding for county extension education efforts focused primarily on integrated pest management of rice and soybean principles. County extension education efforts was aimed at improving rice and soybean production and pest management through the adoption of scientifically-based management recommendations.
« The Rice, Soybean, and Wheat Pathology Programs assisted county extension programs in the state educate growers and others involved to better identify, understand and manage the many rice, soybean, and wheat diseases in Arkansas.
« The Soybean Cultivar Disease Screening Program assisted soybean producers in selecting the most appropriate soybean cultivars for their farms to avoid costly losses from soybean diseases and nematodes.
« Urban and commercial horticulture educational programs was delivered to train urban and commercial vegetable, ornamental, turf and fruit clientele in the state of Arkansas in the area of best plant disease management practices.
« Human Integrated Pest Management did develop sound recommendations for IPM targeting pests affecting humans, and delivered the recommendations to a variety of sectors of the public. Pests that were targeted in developing the recommendations include Africanized bees, termites, and fire ants in residential settings. Delivery methods include presentations at educational meetings and workshops, extension publications and newsletters, development of web-based materials and visits to households of affected citizens.

Output/Methods: Grower meetings, training extension agents and crop consultants, educational newsletters, Extension publications, visits to individual growers /homeowners, diagnosis of pest problems, newspaper/magazine /professional journal articles, interviews, field days and demonstrations, web-based information, and/or applied on- farm research.

2. Brief description of the target audience

Crop producers
Livestock producers
Division of Agriculture personnel
Agricultural consultants
Agricultural industry personnel
Pesticide applicators
Pest Control Operators
Homeowners
Golf course superintendents
Commercial pest management personnel
Master gardeners
Commercial landscapers
Landscape management staff
Public Health Officials
Other researchers
Students
Extension Specialists
Research Funding Personnel and Agencies
Policy and Decision Makers
General Public

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	78000	65000	0	0
2007	18320	70000	25	0

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

Patent Applications Submitted

Year	Target
Plan:	2
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	3	42	45

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Educational Classes

Year	Target	Actual
2007	224	460

Output #2

Output Measure

- Number of one-on-one contacts

Year	Target	Actual
2007	60000	9898

Output #3

Output Measure

- Number of Field Demonstrations

Year	Target	Actual
2007	370	328

Output #4

Output Measure

- Number of farm tours

Year	Target	Actual
2007	60	110

Output #5

Output Measure

- Number of publications written

Year	Target	Actual
2007	15	15

Output #6

Output Measure

- Number of farm visits made

Year	Target	Actual
2007	6000	4500

Output #7

Output Measure

- Number of pesticide applicator education classes

Year	Target	Actual
2007	90	343

Output #8

Output Measure

- Number of homeowner education classes

Year	Target	Actual
2007	50	35

Output #9

Output Measure

- Number of hits on website

Year	Target	Actual
2007	4000	119924

Output #10

Output Measure

- Number of newsletters

Year	Target	Actual
2007	420	400

Output #11

Output Measure

- Number of Research Field Days

Year	Target	Actual
2007	10	45

Output #12

Output Measure

- Number of Workshops

Year	Target	Actual
2007	15	10

Output #13

Output Measure

- Number of Newsletter Articles

Year	Target	Actual
2007	65	72

Output #14

Output Measure

- Number of Arkansas Commodity Board Grants received

Year	Target	Actual
2007	25	18

Output #15

Output Measure

- Number of Federal Grants and Contracts

Year	Target	Actual
2007	20	8

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Refereed Journal Publications
2	Number of participants becoming aware of IPM strategies
3	Number of participants intending to adopt IPM practices
4	Number of participants gaining knowledge of integrated pest management practices
5	Number of participants gaining knowledge of proper pesticide application practices
6	Number of participants passing commercial pesticide certification exams
7	Number of producers adopting one or more IPM practices
8	Number of homeowners adopting one or more IPM practices
9	Number of participants adopting one or more proper pesticide application practices
10	Number of diagnostic submissions
11	Number of producers using computer assisted programs
12	Number of clients using scouting programs
13	Number of clientele that have adopted IPM-related practices
14	Number of pest monitoring traps utilized
15	Business Start Ups
16	Sustained acreage on which integrated methods are adopted and implemented, resulting in improved environmental health
17	Annual soybean yield - bushels per acre
18	Annual Soybean - Value of Production (1,000 dollars)
19	Annual Rice (all) yield - pounds per acre
20	Annual Rice (all) Value of Production (1,000 dollars)
21	Annual Cotton (all) yield - pounds per acre
22	Percent of Acres of soybean acreage receiving herbicide applications
23	Pounds (1,000) of applied herbicides to planted soybean acreage
24	Percent of Acres of soybean acreage receiving insecticide applications
25	Pounds (1,000) of applied insecticides to planted soybean acreage
26	Percent of Acres of soybean acreage receiving fungicide applications
27	Pounds (1,000) of applied fungicides to planted soybean acreage

Outcome #1

1. Outcome Measures

Refereed Journal Publications

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	40

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
312	External Parasites and Pests of Animals
721	Insects and Other Pests Affecting Humans
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems

Outcome #2

1. Outcome Measures

Number of participants becoming aware of IPM strategies

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	4000	9247

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems
723	Hazards to Human Health and Safety
212	Pathogens and Nematodes Affecting Plants
312	External Parasites and Pests of Animals
721	Insects and Other Pests Affecting Humans

Outcome #3

1. Outcome Measures

Number of participants intending to adopt IPM practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	4000	6697

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
312	External Parasites and Pests of Animals
212	Pathogens and Nematodes Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems
721	Insects and Other Pests Affecting Humans

Outcome #4

1. Outcome Measures

Number of participants gaining knowledge of integrated pest management practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	4000	7944

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems
212	Pathogens and Nematodes Affecting Plants
721	Insects and Other Pests Affecting Humans
211	Insects, Mites, and Other Arthropods Affecting Plants
403	Waste Disposal, Recycling, and Reuse

Outcome #5

1. Outcome Measures
Number of participants gaining knowledge of proper pesticide application practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	920	12953

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
312	External Parasites and Pests of Animals
403	Waste Disposal, Recycling, and Reuse

721	Insects and Other Pests Affecting Humans
723	Hazards to Human Health and Safety
212	Pathogens and Nematodes Affecting Plants

Outcome #6

1. Outcome Measures

Number of participants passing commercial pesticide certification exams

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	600	835

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
403	Waste Disposal, Recycling, and Reuse
211	Insects, Mites, and Other Arthropods Affecting Plants
312	External Parasites and Pests of Animals
212	Pathogens and Nematodes Affecting Plants
721	Insects and Other Pests Affecting Humans

Outcome #7

1. Outcome Measures

Number of producers adopting one or more IPM practices

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	4000	5466

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Wheat growers are faced with increasing costs that reduce their profits. Growers have asked UA Extension faculty to help with variety selection, ryegrass control and stripe rust control, with a goal of increasing wheat yields and grain quality.

What has been done

UA Extension faculty provided various demonstrations and farm visits for consultations. The University of Arkansas wheat educational program was an integrated program bringing a whole system approach to improving wheat yields. The program consisted of a demonstration using 10 wheat varieties, a seed-treatment demonstration to control fall greenbug aphid populations (to prevent barley yellow dwarf infection), a wheat grower field day and assistance on evaluating using plastic bags as a new grain storage system.

Results

In all, growers treated 2800 acres of ryegrass using Extension recommendations. Grain quality and increased yields of 8 bushels per acre represented and increase in income of $32 per acre ($89,600). On one grower's farm, grain quality improvements of test weight average increased from 56 to 58 pounds/bu. Ten producers reported improved yields from better adapted variety selection, ryegrass control and use of foliar fungicides for stripe rust.

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
312	External Parasites and Pests of Animals

Outcome #8

1. Outcome Measures

Number of homeowners adopting one or more IPM practices

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	230	411

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
721	Insects and Other Pests Affecting Humans
723	Hazards to Human Health and Safety
211	Insects, Mites, and Other Arthropods Affecting Plants

Outcome #9

1. Outcome Measures

Number of participants adopting one or more proper pesticide application practices

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	920	2730

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Perry County is one of Arkansas' larger sod-producing counties. In late 2006, USDA APHIS added Perry County to the Federal Imported Fire Ant Quarantine. This quarantine was implemented to minimize the unnatural spread of imported fire ants to non-infested areas. Sod growers within the quarantine area needed solutions to treat sod before selling and shipping the sod.

What has been done

As a result of the quarantine, sod producers had to treat all sod destined for shipment to non-quarantined areas. Only two insecticides were approved by APHIS and labeled by EPA for treatment of sod at the application rates required by APHIS. Perry County sod producers identified logistical or mixing problems associated with these options. Because of these concerns, UA Extension faculty led efforts with USDA APHIS, Etigra and the Arkansas State Plant Board to identify an alternative formulation of the same active insecticide ingredient that would be effective, less expensive and easier to mix.

Results

During 2007, a 24-C application was submitted and approved for an insecticide to treat the sod. This alternative reduced mixing problems and saved approximately $125.00 per treated acre of sod, while allowing sod producers to sell sod and comply with the federal quarantine.

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
721	Insects and Other Pests Affecting Humans
723	Hazards to Human Health and Safety
312	External Parasites and Pests of Animals

Outcome #10

1. Outcome Measures

Number of diagnostic submissions

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	760	2275

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
312	External Parasites and Pests of Animals
212	Pathogens and Nematodes Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants
721	Insects and Other Pests Affecting Humans

Outcome #11

1. Outcome Measures

Number of producers using computer assisted programs

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	650	1202

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems
312	External Parasites and Pests of Animals
211	Insects, Mites, and Other Arthropods Affecting Plants

Outcome #12

1. Outcome Measures

Number of clients using scouting programs

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	258	3128

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems

Outcome #13

1. Outcome Measures
Number of clientele that have adopted IPM-related practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	40	4463

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Buffalo gnats are major insect pests that affect cattle and, by extension, cattle producers. Buffalo gnats increase cattle production cost through the burning of hay bales to produce smoke, the cost of transporting livestock to safe locations, and the extra labor involved. Local industry has also lost over $500,000 in production. Cattle producers need IPM options to reduce the incidence and severity of problems from buffalo gnats.

What has been done

One timely treatment was made on 42 miles of river to reduce buffalo gnat numbers, at a cost of $15,000 in pesticides. A second application was conducted to control local 'Hot Spots', identified though special sampling techniques and treated with a low rate of a larvacide. Two 5-mile sections of river were treated, preventing the need of an additional full treatment.

Results

Livestock producers along the southwest part of the county did not receive any damage during the year as a result of the successful surveys and treatments of the buffalo gnat control program. Prior to implementing this program, livestock producers in one county in southwestern Arkansas lost 42 calves, 2 cows, 12 horses and over $750,000 in productivity. Sampling of the river before and after each treatment, showed a reduction of gnat larvae by 96%. Through timing and river management, almost $10,000 was saved in reduced pesticide costs from amounts used in previous years.

4. Associated Knowledge Areas

KA Code	Knowledge Area
312	External Parasites and Pests of Animals
212	Pathogens and Nematodes Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems

Outcome #14

1. Outcome Measures

Number of pest monitoring traps utilized

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	216	848

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants

Outcome #15

1. Outcome Measures

Business Start Ups

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	9

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
216	Integrated Pest Management Systems

Outcome #16

1. Outcome Measures
Sustained acreage on which integrated methods are adopted and implemented, resulting in improved environmental health

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	2000000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems
312	External Parasites and Pests of Animals
212	Pathogens and Nematodes Affecting Plants

Outcome #17

1. Outcome Measures

Annual soybean yield - bushels per acre

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	38	36

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems

Outcome #18

1. Outcome Measures

Annual Soybean - Value of Production (1,000 dollars)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	791094	604029

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems

Outcome #19

1. Outcome Measures

Annual Rice (all) yield - pounds per acre

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	6610	7130

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems
212	Pathogens and Nematodes Affecting Plants

Outcome #20

1. Outcome Measures

Annual Rice (all) Value of Production (1,000 dollars)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	740648	848839

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants

Outcome #21

1. Outcome Measures
Annual Cotton (all) yield - pounds per acre

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	916	1062

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems

Outcome #22

1. Outcome Measures

Percent of Acres of soybean acreage receiving herbicide applications

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	95	95

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

Outcome #23

1. Outcome Measures

Pounds (1,000) of applied herbicides to planted soybean acreage

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	4152	4000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

Outcome #24

1. Outcome Measures

Percent of Acres of soybean acreage receiving insecticide applications

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	14	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems
403	Waste Disposal, Recycling, and Reuse

Outcome #25

1. Outcome Measures

Pounds (1,000) of applied insecticides to planted soybean acreage

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	344	628199

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants

Outcome #26

1. Outcome Measures

Percent of Acres of soybean acreage receiving fungicide applications

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	8	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Soybean growers learned that Asian soybean rust had been found in the mid-south, leading to increased concern and preparation for treatment of their soybean acreage to prevent the disease.

What has been done

UA Extension faculty developed and distributed a Soybean Rust Newsletter, which gave soybean growers timely information to allow making rational decisions about monitoring and treating soybean rust - especially when not to treat. Monitoring for soybean rust in 42 soybean-producing counties gave growers an early warning for when soybean rust was detected.

Results

Early detection led to use of fungicides on 200,000 acres of soybeans at a cost of 3.5 million, but controlled the incipient epidemic. Further, results from monitoring soybean fields was responsible for avoiding unnecessary applications to the majority of the 3 million acres of soybeans in the state - thus saving growers millions of dollars. The newsletter helped many growers recognize they did not need to treat their soybean crop, saving approximately $20 per acre. Others that treated only once saved approximately $15 per acre.

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

Outcome #27

1. Outcome Measures

Pounds (1,000) of applied fungicides to planted soybean acreage

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	21	21

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

Pest Management program outcomes will be affected by a new Farm Bill, funding from CSREES to Land-Grant Universities, fuel costs and changes in acreage (reflecting commodity prices).Any or all of these will affect projected outcome results.

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

1. Evaluation Studies Planned

- After Only (post program)
- During (during program)
- Other ()

Evaluation Results

The Pest Management program will collect data during and after the five-year cycle, including some long-term indicators.Long-term historical data are not available for several long-term indicators, making before and after comparisons impossible.

Key Items of Evaluation

Data will be collected from producers, consultants and other agricultural practitioners through telephone and mail surveys, questionnaires at producer meetings and on-site visits.Indirect methods will include gleaning data from NASS.

Program #9

V(A). Planned Program (Summary)

1. Name of the Planned Program

Plants & Plant Products

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	10%		10%	
102	Soil, Plant, Water, Nutrient Relationships	10%		10%	
111	Conservation and Efficient Use of Water	10%		10%	
112	Watershed Protection and Management	10%		10%	
201	Plant Genome, Genetics, and Genetic Mechanisms	10%		10%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	10%		10%	
204	Plant Product Quality and Utility (Preharvest)	10%		10%	
205	Plant Management Systems	10%		10%	
206	Basic Plant Biology	10%		10%	
213	Weeds Affecting Plants	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	69.0	0.0	25.0	0.0
Actual	69.6	0.0	35.5	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
929701	0	1810321	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
929701	0	1825164	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
6079182	0	16958556	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Developed and conducted workshops, educational meetings, demonstrations, and field days
Directed clientele contact: on- site visits, phone calls, mail and emails
Developed and produced educational products and materials
Conducted tours and demonstrations
Conducted discovery and applied research
Published educational materials
Provided diagnostic services
Completed media work through print, radio, TV and internet
Partnered with commodity associations, groups, Master Gardeners, and traditional and nontraditional groups
Coordinated Master Gardener programs
Developed improved crop production systems that maximize profitability and sustainability

2. Brief description of the target audience

Growers/producers
Consultants
Agri Business/Allied Industries
Horticulture production and Service Businesses
Master Gardeners
General Public
Other researchers
Students
Extension Specialists
Teaching faculty
Research funding personnel and agencies
Public

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	190274	419318	0	0
2007	127311	187464	1812	523

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

Patent Applications Submitted

Year	Target
Plan:	10
2007 :	3

Patents listed

Plant Patent 17,911 'White Rock Peach'
Plant Patent 17,742 'White County Peach'
Patent 60/841,353 Cotton Plant with reniform nematode resistance

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	2	86	88

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of agronomic Production Education Meetings (multi-topic)

Year	Target	Actual
2007	234	40

Output #2

Output Measure

- Number of Production Education Meetings that address fertilizer, soil & water management

Year	Target	Actual
2007	27	250

Output #3

Output Measure

- Number of Production Education Meetings that address variety selection

Year	Target	Actual
2007	12	203

Output #4

Output Measure

- Number of Production Education Meetings that address plant monitoring and nutrition

Year	Target	Actual
2007	19	173

Output #5

Output Measure

- Number of Production Education Meetings that address soil and water testing

Year	Target	Actual
2007	9	160

Output #6

Output Measure

- Number of Production Education Meetings that address variety Selection consultations

Year	Target	Actual
2007	37	145

Output #7

Output Measure

- Number of demonstrations/on-farm research

Year	Target	Actual
2007	188	900

Output #8

Output Measure

- Number of farm visits

Year	Target	Actual
2007	364	18350

Output #9

Output Measure

- Number of field days

Year	Target	Actual
2007	51	90

Output #10

Output Measure

- Number of informal surveys of participants to measure cultural practice

Year	Target	Actual
2007	18	645

Output #11

Output Measure

- Number of educational meetings, demonstrations, field days, site visits and other group events held to educate commercial and consumer clientele in horticulture

Year	Target	Actual
2007	505	4670

Output #12

Output Measure

- Number of educational meetings, demonstrations, farm visits and/or field days held to educate clientele on forage production and grazing management

Year	Target	Actual
2007	2434	2489

Output #13

Output Measure

- Number of hits to plant and plant products web-based educational materials

Year	Target	Actual
2007	6000	8025

Output #14

Output Measure

- Number of Arkansas Commodity Board Grants received

Year	Target	Actual
2007	50	90

Output #15

Output Measure

- Number Federal grants and contracts

Year	Target	Actual
2007	25	11

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Number Refereed Journal Publications
2	Number of commercial forage producers who gained awareness related to management technology
3	Number of commercial forage producers who gained knowledge related to production practices
4	Number of new Master Gardeners trained and certified
5	Number of participants who changed or adopted a new commercial forage management practice
6	Number of participants who changed or adopted a new forage and/or grazing management practice
7	Number of clientele who select improved varieties
8	Number of clientele using soil testing
9	Number of clientele using plant testing
10	Number of clientele using water testing
11	Number of impacted acres using soil testing
12	Number of impacted acres using plant testing
13	Number of impacted acres using water testing
14	Forage testing submissions
15	Number of producers using strip-grazing for their stockpiled forages
16	Number of clientele (non-duplicated) who use the DD50 program for improved production efficiency
17	Number of impacted acres using DD50 program for improved production efficiency
18	Number of clientele using the RICESEED program
19	Number of acres planted based on output from RICESEED program
20	Number of Master Gardeners who recertified
21	Business Start Ups
22	Number of new horticultural businesses and new farmers markets
23	Acres of harvested wheat (all)
24	Yield (bushels) of harvested wheat (all)
25	Price (bushel) of harvested wheat (all)
26	Value of Production of harvested wheat (all)
27	Acres of harvested soybeans (all)
28	Yield (bushels) of harvested soybeans
29	Price (per bushel) of harvested soybeans
30	Value of Production of harvested soybeans (all)
31	Acres of harvested rice (all)
32	Yield (pounds) of harvested rice (all)
33	Price (dols/cwt) of harvested rice (all)
34	Acres of harvested cotton (all)
35	Yield (pounds) of harvested cotton (all)
36	Total production (bales) of harvested cotton (all)
37	Acres of harvested hay (all)
38	Yield (tons) of harvested hay (all)
39	Price (per ton) of harvested hay (all)
40	Value of Production of harvested hay (all)

Outcome #1

1. Outcome Measures

Number Refereed Journal Publications

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	88

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
201	Plant Genome, Genetics, and Genetic Mechanisms
205	Plant Management Systems
213	Weeds Affecting Plants
111	Conservation and Efficient Use of Water
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
101	Appraisal of Soil Resources
204	Plant Product Quality and Utility (Preharvest)
206	Basic Plant Biology
112	Watershed Protection and Management

Outcome #2

1. Outcome Measures

Number of commercial forage producers who gained awareness related to management technology

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	200	754

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
112	Watershed Protection and Management
213	Weeds Affecting Plants

Outcome #3

1. Outcome Measures

Number of commercial forage producers who gained knowledge related to production practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	200	769

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Soybean grown on low cation exchange capacity soils (sandy and silt loams) usually requires phosphorus (P) and potassium (K) fertilization to produce maximum yields. The prices of inorganic P and K fertilizers have gradually increased for the past several years and are expected to continue to increase as world demand and transportation/production costs increase. Natural resources produced within the state, such as poultry litter, may be cost-effective, alternative P and K fertilizer sources for row crops and may offer other benefits that aid in sustaining long-term agricultural productivity to soils in eastern Arkansas.

What has been done

Research was initiated at 10 sites between 2004 and 2007 to compare soybean response to equal P and K rates applied as inorganic P and K fertilizers or poultry litter. The research objectives were to determine if soybean yields were stimulated by the application of an organic soil amendment above the response provided by standard fertilization and to evaluate the availability of P and K in litter. To satisfy these objectives, the P and K nutritional status of soybean receiving different fertilizer treatments were compared at the R2 growth stage and grain yield was measured at maturity.

Results

Soybean yields were not benefited by inorganic fertilizer or poultry litter at six sites, but at four sites soybean receiving poultry litter produced significantly greater yields (10-18%) than soybean fertilized with equal rates of inorganic P and K fertilizers. Soybean at three of the four responsive sites did not respond to P and K fertilization suggesting that another component of poultry litter may be stimulating soybean yields on some silt loam soils used for rice and soybean production. Considering the rising costs of inorganic fertilizer, the value of the P and K in poultry litter is economically attractive with litter having the added value of other micronutrients, nitrogen, and organic matter. Although the reason for increased yield of soybean fertilized with poultry litter is not currently known and the yield benefit does not appear to be consistent among soils, application of poultry litter based on soil and crop P requirements may aid in building the fertility status and productivity of soils in eastern Arkansas and reducing micronutrient deficiencies row crops.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
112	Watershed Protection and Management
213	Weeds Affecting Plants
102	Soil, Plant, Water, Nutrient Relationships

Outcome #4

1. Outcome Measures

Number of new Master Gardeners trained and certified

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	700	1846

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Home Gardening is a growing commodity. A train the trainer approach via the Master Gardener program has been a huge success for several decades. Keeping these volunteers motivated and engaged is a challenge. Their support has greatly expanded the horticultural programs across the country. While the consumer horticulture program is strong, we need better communication skill sets to reach a broader audience.

What has been done

Arkansas will offer a new program to Master Gardener volunteers and agents dealing with communication skills. Particular training will be done in writing, power point, photography and editing. Training will benefit local county programs as well as impact the horticulture program at a statewide level.

Results

This effort will impact the state by strengthening our volunteers and our program. It will also enable counties to have better rapport with their local newspapers and other media outlets. With proper training, the volume of work should improve and increase.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
206	Basic Plant Biology
101	Appraisal of Soil Resources
204	Plant Product Quality and Utility (Preharvest)
102	Soil, Plant, Water, Nutrient Relationships
201	Plant Genome, Genetics, and Genetic Mechanisms
213	Weeds Affecting Plants

205	Plant Management Systems
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
112	Watershed Protection and Management

Outcome #5

1. Outcome Measures

Number of participants who changed or adopted a new commercial forage management practice

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	625

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
213	Weeds Affecting Plants
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
205	Plant Management Systems

Outcome #6

1. Outcome Measures

Number of participants who changed or adopted a new forage and/or grazing management practice

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	2575

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
213	Weeds Affecting Plants
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
112	Watershed Protection and Management
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants

Outcome #7

1. Outcome Measures

Number of clientele who select improved varieties

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	9882	15523

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Soybean is an important commodity in Arkansas and ranks on the top in acreage among all agricultural crops. Over three million acres of soybean are grown each year, generating approximately 110 million bushels in total production and $750 million in gross income. Choosing a proper variety is one of the most important decisions a grower has to make each growing season. There are many varietal characteristics, such as yield potential, maturity, disease resistance, herbicide resistance, and seed quality, which need to be considered in matching the best variety for a particular cropping system or production environment. The numerous varieties available to Arkansas growers come from publicly funded breeding programs in the southern states and from private companies.

What has been done

The long-term goal of our soybean breeding program is to develop varieties with high productivity and profitability. Our specific objectives for variety development include high yield potential, various maturities, multiple and durable disease resistance, stress tolerance, conventional and herbicide resistance, lodging and shattering resistance, and improved seed quality. We have established a strong breeding program and an extensive variety-testing program to assist our soybean producers in selecting the best varieties to grow. Arkansas soybean producers provide check-off funds administered by the Arkansas Soybean Promotion Board to support the soybean breeding program.

Results

More than 20 varieties have been released from the University of Arkansas' soybean breeding program and had significant impact on Arkansas soybean production. Growing a high-yielding variety does not cost more than growing an average variety. Every bushel of extra soybean yield produced by growing the high-yielding variety is a net income to the growers. Higher yields from new and improved varieties should translate into higher profits to Arkansas soybean producers, particularly when productions costs are high. Varieties with disease resistance and stress tolerance will also prevent yield loss under unfavorable production conditions. In addition, public programs supply thoroughly-tested varieties with low cost seeds that can be saved for planting, which provides additional savings for the growers. Three new conventional varieties (Osage, UA4805, and Ozark) have been recently released to the public. They all have high yield potential, good disease resistance, and excellent local adaptation. Foundation seeds are available for commercial production.

4. Associated Knowledge Areas

KA Code	Knowledge Area
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
201	Plant Genome, Genetics, and Genetic Mechanisms
204	Plant Product Quality and Utility (Preharvest)

Outcome #8

1. Outcome Measures

Number of clientele using soil testing

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	8731	174595

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management

Outcome #9

1. Outcome Measures

Number of clientele using plant testing

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	639	1151

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems

Outcome #10

1. Outcome Measures
Number of clientele using water testing

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	82	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
205	Plant Management Systems
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management

Outcome #11

1. Outcome Measures

Number of impacted acres using soil testing

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30017959	6060776

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
112	Watershed Protection and Management
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems

Outcome #12

1. Outcome Measures

Number of impacted acres using plant testing

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	145621	1085062

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #13

1. Outcome Measures

Number of impacted acres using water testing

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	26635	3000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water

Outcome #14

1. Outcome Measures

Forage testing submissions

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	97

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
102	Soil, Plant, Water, Nutrient Relationships

Outcome #15

1. Outcome Measures
Number of producers using strip-grazing for their stockpiled forages

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	22	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #16

1. Outcome Measures

Number of clientele (non-duplicated) who use the DD50 program for improved production efficiency

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1794	1636

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
205	Plant Management Systems
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships

Outcome #17

1. Outcome Measures

Number of impacted acres using DD50 program for improved production efficiency

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	712053	644564

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
111	Conservation and Efficient Use of Water
101	Appraisal of Soil Resources

Outcome #18

1. Outcome Measures

Number of clientele using the RICESEED program

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	247	364

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Arkansas farmers produce more than 45 percent of the rice grown in the United States under dynamic production conditions that differ from those in other rice-growing areas. Because of their prominence in this crop, Arkansas rice farmers depend on an Arkansas variety development program that provides a progression of improved varieties to meet the challenges of changing conditions in their fields and in the marketplace for rice.

What has been done

Arkansas rice producers provide check-off funds administered by the Arkansas Rice Research and Promotion Board to help support a dynamic rice breeding program by Arkansas scientists in cooperation with researchers in other states and the USDA. Check-off funding for the breeding program was started in 1980 and has increased substantially over the years. Nineteen varieties have been released from the Arkansas breeding program since 1980. Each variety comes with management recommendations developed through research on plant nutrients, diseases, insect pests, weeds and other areas. These recommendations help farmers tailor practices to the genetic potential of each variety. Genetic improvement in disease resistance, plant types, grain and milling yields, quality and other traits have helped increase yield and grain quality while controlling production costs.

Results

Fifty percent of the rice grown in Arkansas in 2007 was comprised of varieties developed in the Arkansas rice variety improvement program. When the program was started in 1980, the average rough rice yield in Arkansas was only 4,110 lbs/acre compared to 7200 lbs/acre in 2007 which is the highest state average yield in Arkansas history. Assigning a conservative value of 60 percent of this 3090 lbs/acre yield increase to new varieties, the average monetary gain in 2007, at a rough rice price of $10.00/cwt, would be $185/acre or $246 million for the 1.325 million acres grown in Arkansas, of which $123 million is due to the Arkansas varieties.

4. Associated Knowledge Areas

KA Code	Knowledge Area
201	Plant Genome, Genetics, and Genetic Mechanisms
205	Plant Management Systems

Outcome #19

1. Outcome Measures

Number of acres planted based on output from RICESEED program

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	55765	193795

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
201	Plant Genome, Genetics, and Genetic Mechanisms

Outcome #20

1. Outcome Measures

Number of Master Gardeners who recertified

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	1264

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
213	Weeds Affecting Plants
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
206	Basic Plant Biology
201	Plant Genome, Genetics, and Genetic Mechanisms
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water

Outcome #21

1. Outcome Measures

Business Start Ups

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	44

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Cooperative efforts by a team of faculty and staff within the Cooperative Extension Service have helped the third largest rice producer in the Delta region transition from rice to wholesale nursery production. The farm, located in Harrisburg, has planted a total of 120 acres of ornamental trees since the spring of 2002 with an estimated wholesale value of $2.5 million. This same team of University experts is also helping a former row crop farmer in White County transition to ornamental shade tree production. In 2005, field nurseries started production in Clay and Jackson Counties and container nurseries started production in Washington and Independence Counties. An additional nursery started container production in Washington County in 2006.

What has been done

Since 1999, workshops and materials have been developed to encourage and support the development of new ornamental horticulture businesses. The cornerstone of these programs is the 'Starting a New Horticulture Business' workshop, which is followed by more in-depth workshops in plant materials, plant propagation, and an annual 'tune-up' workshop. A successful in-service training was conducted for county agents to cover basic ornamental horticulture topics and resources.
Twenty-one new fact sheets have been developed since 1999 and a new quarterly newsletter has been initiated to convey information to counties and business clientele in a timely manner.
Emphasis is being placed on development of the commercial horticulture web site. A large web project was launched in January 2002 that includes over 900 plant photographs and comments on the landscape value of these plants. This site will be accessible by businesses and consumers. Plant Flash Cards were offered for sale in 2007.

Results

The statewide plant evaluation program currently has 105 plants under intensive review for landscape performance at 3 sites across Arkansas.
CES faculty in agriculture economics and horticulture are have completed an economic impact survey. This first ever survey of horticulture in Arkansas documented the economic contribution of horticulture to Arkansas agriculture.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
101	Appraisal of Soil Resources
213	Weeds Affecting Plants
206	Basic Plant Biology
205	Plant Management Systems
102	Soil, Plant, Water, Nutrient Relationships
201	Plant Genome, Genetics, and Genetic Mechanisms
204	Plant Product Quality and Utility (Preharvest)
111	Conservation and Efficient Use of Water
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants

Outcome #22

1. Outcome Measures

Number of new horticultural businesses and new farmers markets

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
204	Plant Product Quality and Utility (Preharvest)
102	Soil, Plant, Water, Nutrient Relationships
201	Plant Genome, Genetics, and Genetic Mechanisms
206	Basic Plant Biology
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
101	Appraisal of Soil Resources
213	Weeds Affecting Plants
111	Conservation and Efficient Use of Water
205	Plant Management Systems

Outcome #23

1. Outcome Measures

Acres of harvested wheat (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	570000	700000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #24

1. Outcome Measures

Yield (bushels) of harvested wheat (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	41

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #25

1. Outcome Measures

Price (bushel) of harvested wheat (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

All blanks are due to 2007 price not being available from the National Agricultural Statistics Service website.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #26

1. Outcome Measures

Value of Production of harvested wheat (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	87780000	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

All blanks are due to 2007 price not being available from the National Agricultural Statistics Service website.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #27

1. Outcome Measures

Acres of harvested soybeans (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2890000	2790000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #28

1. Outcome Measures

Yield (bushels) of harvested soybeans

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	38	36

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Phytoremediation via intensive cropping with warm-season forages is one option for reducing high P levels of soils that have received large amounts of biosolids or manure. However, crops remove large amounts of potassium (K), about 7 times more than P, making K fertilization an important consideration for forage production. Due to the high K removal rate proper K fertilization is required to maintain soil productivity, maintain bermudagrass stands, prevent winter kill, and sustain high yielding forages.

What has been done

Research was established to determine how bermudagrass K removal and yield are affected by K-fertilization rate across time. Beginning in 2006, K-fertilizer rates of 0 to 500 lbs K2O/acre/year were applied annually in split applications to a soil with a 'Medium' soil-test K level. Forage was harvested three times in 2006 and four times in 2007 with yield and total K uptake and removal measured.

Results

Bermudagrass yield was increased from 9-18% in 2006 and 51-69% in 2007 by application of 200 to 500 lbs K2O/acre/year. Well-fertilized bermudagrass forage removes approximately 50 lbs K2O/ton. In the absence of adequate K fertilization bermudagrass yields decline dramatically and rapidly making sufficient K fertilization a requirement to sustain high forage yields. Failure to apply sufficient K fertilizer will reduce the uptake and removal of soil P and could eventually lead to stand loss and have a negative influence on the Arkansas beef cattle industry.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #29

1. Outcome Measures

Price (per bushel) of harvested soybeans

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Growing an adapted variety with high yield potential is the cornerstone for achieving profitable soybean production. Public breeding programs have played an important role in the yield increase by both releasing varieties and providing parental materials to private seed companies. Private companies often neglect specialty soybean traits that may have a relatively small market and require long term investment. With the increasing global competition in recent years, soybean farmers need to find ways cutting down the production cost and increasing the crop value. If soybean production is to remain profitable, we need to investigate the potential of the specialty soybean market and the value-added soybean production.

What has been done

The expanding soybean-based food market in Japan and the U.S. has generated considerable interest among soybean producers. The demand for food-grade soybeans has been increasing due to proved and publicized health benefits and nutritional value from soyfood products such as tofu, natto, soymilk, soysauce, miso, soynuts, edamame, and bean sprouts. A new breeding program has been initiated at the University of Arkansas in attempt to develop high-yielding specialty varieties with improved seed-quality traits. We focus on breeding and selections for proper seed size, high protein, low fat (low linolenic acid and mid-oleic acid), proper sugar and calcium content, soft texture, high isoflavone, and lipoxygenase-free. Varieties released from this program will be commercialized in Arkansas for production and seeds will be provided to domestic manufacturers or exported to Japan. In addition, we are developing high protein and low phytate soybeans for specialty feed that would increase feeding efficiency and improve environmental pollution. Recently, research has been initiated to develop high oil soybeans for bio-diesel production.

Results

Growing a specialty variety does not require extra production input, but may result in slight yield reduction. However, growers are offered premiums ranging from $1.5 to $3.0 per bushel as incentives to produce the specialty seeds. The high quality food-grade soybeans, produced conventionally or organically, are often sold at a much higher price than regular commodity soybeans. Therefore, every bushel of extra yield would not only generate extra net income from soybean sales, but also gain additional production premiums. In addition, farmers can save seeds from their own crop harvest for planting next season, thereby ensuring identity preservation and reducing/eliminating seed costs. The specialty soybeans will play an important role in expanding the niche markets for soyfood, feed, and nutriceuticals, and therefore enhance the overall soybean production.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #30

1. Outcome Measures

Value of Production of harvested soybeans (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	791094000	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

All blanks are due to 2007 price not being available from the National Agricultural Statistics Service website.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #31

1. Outcome Measures

Acres of harvested rice (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1455000	1325000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #32

1. Outcome Measures

Yield (pounds) of harvested rice (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	6610	7130

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #33

1. Outcome Measures

Price (dols/cwt) of harvested rice (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

All blanks are due to 2007 price not being available from the National Agricultural Statistics Service website.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #34

1. Outcome Measures

Acres of harvested cotton (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	945000	850000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #35

1. Outcome Measures

Yield (pounds) of harvested cotton (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	916	1062

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #36

1. Outcome Measures

Total production (bales) of harvested cotton (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1804000	1880000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #37

1. Outcome Measures
Acres of harvested hay (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1340000	1580000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #38

1. Outcome Measures
Yield (tons) of harvested hay (all)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #39

1. Outcome Measures

Price (per ton) of harvested hay (all)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	55	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

All blanks are due to 2007 price not being available from the National Agricultural Statistics Service website.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #40

1. Outcome Measures

Value of Production of harvested hay (all)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	148631000	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

All blanks are due to 2007 price not being available from the National Agricultural Statistics Service website.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Program outcomes will be influenced by changes in the current Farm Bill affecting payments to farmers, land grant university funding from CSREES, increasing fuel costs, downturns in the economy and extreme weather conditions.Any or all of these factors will cause anticipated projected outcomes to vary widely.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Other (AR data from NASS)

Evaluation Results

Comprehensive program and departmental evaluation reviews for research, extension and teaching programs are conducted on a five to seven year cycle by various research based evaluation methods.Data on shifts in production methods, acreage, cropping systems, and enrollment will be compared to historic levels and trends.

Key Items of Evaluation

Data will be collected from producers, industry representatives, and other individuals involved with agriculture through on-site informal surveys and questionnaires at production meetings, field days, and on-site visits.Mail and telephone surveys, will also be utilized along with observations made by Extension faculty.Indirect methods of collecting data will include web page visits on Extension website pages and practice change data taken from the National Agriculture Statistics Service.

Program #10

V(A). Planned Program (Summary)

1. Name of the Planned Program

Technology & Engineering

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	10%		10%	
112	Watershed Protection and Management	10%		10%	
205	Plant Management Systems	10%		10%	
401	Structures, Facilities, and General Purpose Farm Supplies	10%		10%	
402	Engineering Systems and Equipment	10%		10%	
403	Waste Disposal, Recycling, and Reuse	10%		10%	
404	Instrumentation and Control Systems	5%		5%	
405	Drainage and Irrigation Systems and Facilities	10%		10%	
503	Quality Maintenance in Storing and Marketing Food Products	7%		7%	
511	New and Improved Non-Food Products and Processes	5%		5%	
512	Quality Maintenance in Storing and Marketing Non-Food Products	3%		3%	
605	Natural Resource and Environmental Economics	5%		5%	
806	Youth Development	5%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	5.0	0.0	0.0	0.0
Actual	5.3	0.0	2.1	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
83077	0	87628	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
83077	0	88347	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
543231	0	837670	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Field tours, educational meeting, publications, web site development to provide information on practices that improve water management

On-farm demonstrations of practices for improved water management

CES decision tools delivered.

Number of non-duplicated 4-H Youth technology and engineering programs delivered

Number of non-duplicated 4-H Youth participants in technology and engineering programs

2. Brief description of the target audience

Row crop producers

4-H Youth

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	3000	1000	500	700
2007	5416	10348	195	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	10

Patents listed

Kim, J.W. Nanofabrication Platform (nFAB) for Site-Directed Nanometer Assembly (sdna) of Structures and Circuits, Invention Disclosure Filed, May 2007.

Kim, J. W. Near-Infrared (NIR) Responsive Concentric Gold Nanotube (gCNT) Rods, Invention Disclosure Filed, May 2007.

Li, Y., C. Ruan and L. Yang. 2007. Rapid and Automated Electrochemical Method for Detection of Viable Microbial Pathogens. US Patent No. 7,238,496, July 3, 2007.

Li., Y., R. Wang, R. Tian and W. Dong. 2007. Nanowire Bundle Electrode Based Impedance Biosensor for Specific and Sensitive Detection of Bacteria. Invention Disclosure of the University of Arkansas, July 25, 2007. UAF ID# 08-04.

Tian, R., W. Dong, Y. Li and R. Wang. 2007. Titanate Nanowire Bundle Electrode - Concept, Design and Fabrication. Invention Disclosure of the University of Arkansas, July 25, 2007. UAF ID# 08-03.

Ye, Z., and Y. Li. 2007. Software for Capillary Optical and Electrochemical Biosensors. Invention Disclosure of the University of Arkansas, March 22, 2007. UAF ID# 07-16.

Osborn, G. S., M. D. Matlock, S. S. Teltschik. 2007. Portable System to Enhance Biological Treatment Processes for Improving Water Quality: A portable water ecosystem oxygenator. Patent Number 20050279713.

Osborn, G.S., M.D. Matlock, S. Teltschik. 2007. U.S. Patent 7,255,332 System and Method for Dissolving Gases in Liquids Issued.

Osborn, G.S., M.D. Matlock, S. Teltschik. 2007. U.S. Patent Filing Continuation to expand System and Method for Dissolving Gases in Liquids

Osborn, G.S., M.D. Matlock, S. Teltschik. 2007. PCT International Filing of System and Method for Dissolving Gases in Fluids and for Delivery of Dissolved Gases. PCT/US06/20391.

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	4	52	56

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of CES On-Farm Demonstrations of practices for improved water management

Year	Target	Actual
2007	50	135

Output #2

Output Measure

- Number of CES Field Tours facilitated

Year	Target	Actual
2007	15	26

Output #3

Output Measure

- Number of CES sponsored educational meetings addressing water management with producers

Year	Target	Actual
2007	100	84

Output #4

Output Measure

- Number of producers and consultants attending CES sponsored educational meetings addressing water management

Year	Target	Actual
2007	3000	2953

Output #5

Output Measure

- Number of publications that include Water Management Information

Year	Target	Actual
2007	10	198

Output #6

Output Measure

- Number of postings of Water Management Information to web sites

Year	Target	Actual
2007	10	9

Output #7

Output Measure

- Number of CES decision tools delivered

Year	Target	Actual
2007	100	1519

Output #8

Output Measure

- Number of states requesting copies of Arkansas CES decision support tools

Year	Target	Actual
2007	3	21

Output #9

Output Measure

- Number of foreign entities requesting Arkansas CES decision tools

Year	Target	Actual
2007	1	7

Output #10

Output Measure

- Number of county 4-H Tech Teams

Year	Target	Actual
2007	12	0

Output #11

Output Measure

- Number of state 4-H Tech Team workshops

Year	Target	Actual
2007	6	0

Output #12

Output Measure

- Number of participants at the Arkansas 4-H Technology Conference

Year	Target	Actual
2007	40	0

Output #13

Output Measure

- Number of participants enrolled in the 4-H GPS & NatureMapping Program

Year	Target	Actual
2007	100	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Number of people who increase their knowledge related to production practices for improved water management, following attendance at CES educational programs
2	Number of people who intend to adopt one or more practices for improved water management (CES)
3	Number of county 4-H Tech Team members who increased their knowledge related to use of technology
4	Number of county 4-H Tech Team members, 4-H GPS and NatureMapping program participants who increased their knowledge of careers that use GPS
5	Percent of participants enrolled in the 4-H GPS & NatureMapping Program that used GPS for the first time during the program
6	Percent of participants enrolled in the 4-H GPS & NatureMapping Program that reported learning enough about GPS during the program to use it on their own
7	Percent of participants enrolled in the 4-H GPS & NatureMapping Program that plan to use GPS again in the future
8	Number of 4-H Youth participants who learned wise use of resources life skill
9	Number of 4-H Youth participants who learned decision making life skill
10	Number of clientele who adopt one or more practices for improved water management (CES)
11	Number of county 4-H Tech Team members who completed a community service project using technology
12	Number of 4-H Journals completed in technology and engineering
13	Number of 4-H Youth projects completed in technology and engineering
14	Number of non-duplicated 4-H Youth participating in technology and engineering events
15	Number of clientele (non-duplicated) who use the DD50 program for improved production efficiency
16	Number of impacted acres using DD50 program for improved production efficiency
17	Number of clientele using the RICESEED program
18	Number of acres planted based on output from RICESEED program
19	Total number of acres with practices resulting in improved water conservation and management (CES)
20	Average water savings in percent for MIRI fields on silt loam soil
21	Number of 4-H Youth awarded post secondary scholarships related to technology and engineering
22	Percent of participants enrolled in the 4-H GPS & NatureMapping Program that would consider a career in a technology field and/or using GPS technology

Outcome #1

1. Outcome Measures

Number of people who increase their knowledge related to production practices for improved water management, following attendance at CES educational programs

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	150	2250

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Row crop producers are interested in improving water management in order to achieve economical production while protecting and conserving natural resources and the environment.

What has been done

CES conducted educational programs that addressed methods for improving water management

Results

2250 people increased their knowledge related to production practices for improved water management

4. Associated Knowledge Areas

KA Code	Knowledge Area
405	Drainage and Irrigation Systems and Facilities
102	Soil, Plant, Water, Nutrient Relationships

Outcome #2

1. Outcome Measures

Number of people who intend to adopt one or more practices for improved water management (CES)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	150	1324

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Row crop producers are interested in improving water management in order to achieve economical production while protecting and conserving natural resources and the environment.

What has been done

CES conducted educational programs that addressed methods for improving water management.

Results

1324 people intend to adopt one or more practices for improved water management.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
405	Drainage and Irrigation Systems and Facilities

Outcome #3

1. Outcome Measures

Number of county 4-H Tech Team members who increased their knowledge related to use of technology

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #4

1. Outcome Measures

Number of county 4-H Tech Team members, 4-H GPS and NatureMapping program participants who increased their knowledge of careers that use GPS

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	120	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #5

1. Outcome Measures

Percent of participants enrolled in the 4-H GPS & NatureMapping Program that used GPS for the first time during the program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #6

1. Outcome Measures

Percent of participants enrolled in the 4-H GPS & NatureMapping Program that reported learning enough about GPS during the program to use it on their own

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #7

1. Outcome Measures
Percent of participants enrolled in the 4-H GPS & NatureMapping Program that plan to use GPS again in the future

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	80	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #8

1. Outcome Measures
Number of 4-H Youth participants who learned wise use of resources life skill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	225	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #9

1. Outcome Measures

Number of 4-H Youth participants who learned decision making life skill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #10

1. Outcome Measures

Number of clientele who adopt one or more practices for improved water management (CES)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	150	895

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Row crop producers are interested in improving water management in order to achieve economical production while protecting and conserving natural resources and the environment.

What has been done

CES conducted educational programs that addressed methods for improving water management.

Results

895 adopted one or more practices for improved water management.

4. Associated Knowledge Areas

KA Code	Knowledge Area
405	Drainage and Irrigation Systems and Facilities
102	Soil, Plant, Water, Nutrient Relationships

Outcome #11

1. Outcome Measures

Number of county 4-H Tech Team members who completed a community service project using technology

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #12

1. Outcome Measures

Number of 4-H Journals completed in technology and engineering

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #13

1. Outcome Measures

Number of 4-H Youth projects completed in technology and engineering

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #14

1. Outcome Measures

Number of non-duplicated 4-H Youth participating in technology and engineering events

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #15

1. Outcome Measures

Number of clientele (non-duplicated) who use the DD50 program for improved production efficiency

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1794	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #16

1. Outcome Measures

Number of impacted acres using DD50 program for improved production efficiency

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	712053	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #17

1. Outcome Measures

Number of clientele using the RICESEED program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	247	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #18

1. Outcome Measures
Number of acres planted based on output from RICESEED program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	55765	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #19

1. Outcome Measures
Total number of acres with practices resulting in improved water conservation and management (CES)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100000	597770

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Row crop producers are interested in improving water management in order to achieve economical production while protecting and conserving natural resources and the environment.

What has been done

CES conducted educational programs that addressed methods for improving water management.

Results

Practices that result in improved water conservation and management are in place on 597,770 acres.

4. Associated Knowledge Areas

KA Code	Knowledge Area
405	Drainage and Irrigation Systems and Facilities
102	Soil, Plant, Water, Nutrient Relationships

Outcome #20

1. Outcome Measures

Average water savings in percent for MIRI fields on silt loam soil

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	23	18

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Row crop producers are interested in improving water management in order to achieve economical production while protecting and conserving natural resources and the environment.

What has been done

CES conducted educational programs that addressed methods for improving water management.

Results

On farm demonstrations indicate that the average water savings on MIRI fields was 20%.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
405	Drainage and Irrigation Systems and Facilities

Outcome #21

1. Outcome Measures

Number of 4-H Youth awarded post secondary scholarships related to technology and engineering

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	12	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #22

1. Outcome Measures

Percent of participants enrolled in the 4-H GPS & NatureMapping Program that would consider a career in a technology field and/or using GPS technology

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	80	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

There are several scenarios that cannot be planned for in advance. These will be responded to in a timely and appropriate manner as they are identified throughout the period.

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

1. Evaluation Studies Planned

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

Evaluation Results

Evaluation of MIRI through on farm demonstrations has been very positive.

Key Items of Evaluation

CES staff receive informal evaluations of water consercation and management practices through discussion with producers during the season.