

V(A). Planned Program (Summary)

Program # 5

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
601	Economics of Agricultural Production and Farm Management	25%		35%	
602	Business Management, Finance, and Taxation	12%		19%	
603	Market Economics	5%		8%	
604	Marketing and Distribution Practices	6%		6%	
605	Natural Resource and Environmental Economics	1%		9%	
606	International Trade and Development	2%		4%	
608	Community Resource Planning and Development	18%		5%	
609	Economic Theory and Methods	1%		2%	
610	Domestic Policy Analysis	15%		10%	
611	Foreign Policy and Programs	1%		2%	
801	Individual and Family Resource Management	7%		0%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	5%		0%	
805	Community Institutions, Health, and Social Services	2%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	30.1	0.0	8.4	0.0
Actual	26.0	0.0	5.8	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
325393	0	314272	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
431812	0	318700	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2945626	0	1220094	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Conduct research and facilitate the development and adoption of new technologies, products and strategies that will enhance global competitiveness
- Conduct economic and policy research and evaluations that may increase economic efficiencies and improve socioeconomic conditions
- Create and distribute educational products and materials using print and electronic mediums
- Develop and conduct educational meetings
- Provide professional services to clientele
- Develop, evaluate, and disseminate education programs and curricula, incorporating new research
- Develop county and economic profiles for educational purposes
- Convene issue forums for both internal and external audiences

2. Brief description of the target audience

- Producers - Small, large, limited resource, retirement, other
- Businesses - Industry, small, large, rural, urban, consultants, other
- Consumers - Limited resource, families, retired, youth, middle age, other
- Elected Officials - city, county, state, and national
- Organizations - Civic, community, producer, consumer, nonprofit and other
- Government Personnel - Public agencies and administrators, and other
- Voters
- Research, Extension and teaching professionals
- Other

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	16000	104300	1500	400
Actual	31187	119822	1404	891

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	15	20	
Actual	39	22	61

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of educational products and materials developed or updated for print, electronic media, radio, podcasts, or display.

Year	Target	Actual
2010	320	522

Output #2

Output Measure

- Number of scientific publications.

Year	Target	Actual
2010	20	22

Output #3

Output Measure

- Number of graduate students completing degrees.

Year	Target	Actual
2010	14	18

Output #4

Output Measure

- Number of educational activities conducted related to economics and commerce.

Year	Target	Actual
2010	100	344

Output #5

Output Measure

- Number of clientele attending educational activities related to economics and commerce.

Year	Target	Actual
2010	1500	31024

Output #6

Output Measure

- Number of participants in individual and family resource management programs.

Year	Target	Actual
2010	500	2341

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of participants who increase knowledge of economics and commerce.
2	Number of participants who indicate a change in behavior based on what they've learned about economics and commerce
3	Sustainable, vibrant and globally competitive agricultural sector for Arkansas as indicated by Arkansas Cash Farm Receipts (in thousand dollars) (NASS)
4	Sustainable, vibrant and globally competitive agricultural sector for Arkansas as indicated by Arkansas Net Farm Incomes (in thousand dollars) (ERS)
5	Number of jobs created or retained through educational programs
6	Dollars of revenue generated by businesses as a result of educational programs
7	Number of participants who increase their knowledge of individual and family resource management.
8	Economic Feasibility of On-Farm Grain Storage (Quantitative measure included in Outcome #1)
9	Producers Gained Knowledge of Commodity Marketing Skills in a Variety of Farm Business Situations (Quantitative measure included in Outcome #1)
10	Evaluation of the COTMAN Program (Quantitative measure included in Outcome #1)
11	Assessment of Preparedness for Agricultural Bioterrorism in Arkansas (Quantitative measure included in Outcome #1)

Outcome #1

1. Outcome Measures

Number of participants who increase knowledge of economics and commerce.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	34673	42727

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Since the late 1980s, the Ozarks Plateau region has experienced rapid growth in poultry and livestock production and population growth in the area. This resulted in excess nutrient production from both agricultural sources and municipal bio-solids. Increased phosphorus in runoff water into surface sources has often been attributed to these been phenomena. Effective and economically efficient movement of excess nutrients is a reasonable and sustainable method for moving these nutrients into areas of high agricultural productivity by providing a soil amendment from a non-chemical source.

What has been done

Poultry litter and dewatered municipal bio-solids were blended, compacted and wrapped in a gas semi-permeable plastic to test nutrient preservation and pathogen destruction capabilities of the baling system on the co-processed product (PL/DMB). The PL/DMB was seeded with 500,000 colony-forming units per gram of a non-pathogenic E. coli routinely used as an indicator to confirm reliability of food processing procedures. Extensive testing revealed low nitrogen loss from volatilization and elimination of E. coli indicators within 90 hours. The USEPA accepted the project report; verification as an approved method is on-going.

Results

Numerous leading farmers in the Arkansas Delta experienced encouraging results from use of the baled poultry litter system developed by the Division of Agriculture, now commercialized by White River Fertilizers. In actual farm use by prominent Arkansas farmers, application of one ton per acre produced a 32% yield increase in average yield this year on 500 acres of cotton, using supplemental N to meet soil requirements. This farm will increase use to 3000 acres. A rice farm used 2 tons per acre on severely cut rice ground and obtained yields of 178 bushels per acre, 55% greater than expected; he will use litter for his third. Numerous others have experienced

similar results on other crops. Dr. M. Mozaffari will undertake the third year of testing of baled, co-processed product (PL/DMB) this year; results to date indicate a soil enrichment program incorporating PL/DMB rather than total reliance on chemical fertilizers results in increased profitability. The Northwest Arkansas Conservancy Authority is considering adopting the PL/DMB system at their regional sewage treatment plant near Centerton. Successful implementation of the system at that site could allow in excess of 200,000 tons of PL/DMB to be moved from the nutrient-excess NWA region to nutrient-deficit row crop production areas in Eastern Arkansas and surrounding states.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics
606	International Trade and Development
608	Community Resource Planning and Development
609	Economic Theory and Methods
610	Domestic Policy Analysis
611	Foreign Policy and Programs
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

Outcome #2

1. Outcome Measures

Number of participants who indicate a change in behavior based on what they've learned about economics and commerce

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	3000	8140

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Traditional manufacturing industries are not likely to locate in rural Arkansas communities, especially in distressed areas. Yet, most rural communities continue to depend on industrial recruitment as an economic development rather than exploring alternative economic development strategies. Most community and local business leaders are not taking advantage of local assets for community development and are not creating economic development efforts that area sustainable over the long run.

What has been done

Community and Economic Development (CED) has provided educational programming and technical assistance to help communities build local capacity for asset based social and economic improvements. CED faculty and extension educators have provided statewide and county level conferences, workshops, seminars and community planning sessions for building viable and sustainable communities. They have worked with communities in identifying assets for local economic development, developing and implementing strategic plans, and identifying and implementing opportunities for economic diversification. CED faculty have also engaged in applied research and evaluation, collecting data on community conditions and the effectiveness of intervention strategies through both quantitative (secondary data) and qualitative methodologies (primarily focus groups and roundtables)

Results

Participants in CED programs are taking charge of how they live and work. They have developed and implemented strategic plans for improving economic conditions and quality of life in their communities. They have created new economic opportunities by tackling new and innovative community based projects designed to bring more dollars into their communities (such as historical, natural resource based, cultural and agritourism). They have developed significant numbers of new jobs opportunities by developing new value-added and direct marketing ventures (farmers markets, fruits and horticultural enterprises). Some have taken advantage of new technologies to bring broadband into their communities and others have used broadband to create new e-commerce businesses. They have also improved the quality of their lives, providing new housing, maintaining services and improving local infrastructure. In some persistent poverty communities, we are beginning to see an increase in income and a decline in the poverty rate.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics
606	International Trade and Development
608	Community Resource Planning and Development
609	Economic Theory and Methods
610	Domestic Policy Analysis
611	Foreign Policy and Programs

- 801 Individual and Family Resource Management
- 803 Sociological and Technological Change Affecting Individuals, Families, and Communities
- 805 Community Institutions, Health, and Social Services

Outcome #3

1. Outcome Measures

Sustainable, vibrant and globally competitive agricultural sector for Arkansas as indicated by Arkansas Cash Farm Receipts (in thousand dollars) (NASS)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	7655760	7190057

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is growing public interest in reducing green house gas (GHA) emissions. A small and relatively unused carbon market has functioned in the U.S. for a few years. If any of the bills being discussed in Congress were to pass, the value of carbon is projected to increase from \$.10 per ton to \$30-\$40 per ton. Because agriculture is one of the few ways to naturally sequester carbon and each crop sequesters a different amount of carbon, a high value for carbon sequestration could change economic incentives for various crops and have major implications for cropping patterns. Little research has been conducted on how various carbon prices would affect producer revenue and cropping patterns in the US and the literature is nearly void in Arkansas.

What has been done

A model was developed to quantify the amount of carbon each of the largest eight crops in Arkansas could sequester in each of its 75 counties. The model took into account the soil portfolio in each county, the tillage practices, and harvest indices for each crop in each county. From this an estimate of sequestered carbon per acre per crop per county could be obtained.

Results

The model itself set forth a new methodology for measuring carbon emissions as well as providing policymakers the implications of carbon offset market. The models estimates have been used by commodity groups (Cotton Incorporated) to assess how a carbon offset market would affect cotton producers. The estimates also provide policy makers a snapshot of how various

carbon prices will affect cropping patterns and resulting input and output prices.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	2517163	1821742

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Economic events in the fiscal reporting year were fluid and dynamic. By September 20, 2010 the recession that began in December 2007 was officially identified as having ended. The recession lasted 18 months, which makes it the longest of any recession since World War II.

The difference in this recession was it resulted from a financial crisis due in large part to the U.S. and European's almost indescribable debt burden. Though the recession has passed, the financial crisis continues. Historically, recoveries after financial crises are normally weak and slow

as banking systems, etc. repair and rebuilt balance sheets. The historical recovery period from a financial crisis generally will last seven-plus years, so research and educational challenges remain.

In 2009/2010 two major economic concerns of University of Arkansas Division of Agriculture clientele were: First, the recession's economic impact on their farm or business, state and local government or community and families; and Second, the financial crisis' status and/or duration and economic impact to their farm or business, state and local government or community and families.

Farmers, businesses, financial institutions, and families were concerned about their profitability or financial well being and longer term economic challenges. Local and state governments were seeking answers to an array of questions on the economic situation and outlook.

What has been done

In addressing our clientele's concerns we enhanced our ongoing economic, market, and agricultural outlook and our policy research and educational efforts to provide an enhanced understanding of the economic and policy realities caused by the ongoing financial crisis. This information was then brought together to give our clientele a big picture perspective of the economy, markets, and agricultural outlook. This allowed us in real-time to speak to a broad set of issues impacting producers and businessmen, state and local governments and families. We spoke one-on-one, at group, producer, and state meetings. To provide the most current economic, market, and agricultural outlook information to a broader array of clientele we enhanced our web and social delivery of economic, market, and agricultural outlook and policy information.

Results

We were and are today able to provide our clientele in real time with insight, perspective and considerations about the economic and monetary setting, markets, and agricultural outlook. We achieved these results at the national, state, local, and producer levels. Our economic, market, and agricultural outlook and policy web delivery traffic averaged over 10,000 hits per month.

An example of the economic concerns at the national and global level came from a major multinational cereal company, a major buyer and processor of Arkansas and U.S. rice. To address their concerns we spoke at their in-house technical symposium on how the U.S. and global economic setting was and may impact global and rice situation and outlook. Today, we continue to pass along information, data, and our perspective to this organization and our clientele.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics
606	International Trade and Development
609	Economic Theory and Methods

- 610 Domestic Policy Analysis
- 611 Foreign Policy and Programs

Outcome #5

1. Outcome Measures

Number of jobs created or retained through educational programs

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	2250	2726

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Manufacturing is vital to the Arkansas economy and is an important source of off-farm income to farm families. More than a third of the counties in Arkansas depend on manufacturing employment. However, manufacturing, especially non-durable manufacturing, continues to downsize and relocate to those areas where the costs of production are lower. In those communities suffering from the loss of jobs and economic opportunities, populations, incomes and quality of life are declining. These changes create greater fiscal stress for local governments and these communities are becoming more vulnerable to both economic and natural disasters.

What has been done

In an effort to help rural communities adjust to these changes in how they work and live, University of Arkansas Community and Economic Development (CED) programs have focused on building local capacity for social and economic improvement. CED has provided educational outreach and technical assistance to Arkansans to help them understand how to create new economic opportunities and build community resiliency to social and economic hardships. CED faculty and extension educators have provided statewide and county level conferences, workshops, seminars and community planning sessions. They have also engaged in applied research and evaluation, collecting data on community conditions and the effectiveness of intervention strategies through both quantitative (secondary data) and qualitative methodologies (primarily focus groups and roundtables). CED faculty and extension educators throughout the state are also working with local government leaders to help them understand their current fiscal situations and to identify cost-effective ways to continue to provide infrastructure and services given their fiscal constraints.

Results

Participants in CED programs have learned to a) build their local capacity for improving social and economic conditions, b) work together to create specific changes in their communities, c) implement diverse economic development strategies (such as helping small and niche market agricultural producers with new markets, creating opportunities for new and/or efficient businesses through broadband, and the promotion of tourism) d) maintain or improve the local quality of life.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics
608	Community Resource Planning and Development

Outcome #6

1. Outcome Measures

Dollars of revenue generated by businesses as a result of educational programs

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	75000000	90429528

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Agriculture has been a primary stimulus of economic growth in Arkansas since statehood. While agriculture contributes to the economy through direct agricultural production and value-added processing, it also plays an important role through its interactions with other sectors. The use of non-agricultural goods and services as inputs into the agriculture sector promotes diversified growth in the economy, thereby allowing agriculture to remain a vital part of the state economy.

What has been done

The total economic impact (direct, indirect and induced effects) of agriculture (production and processing for crop, animal agriculture and forestry) on value added, employment and wage income was estimated for the latest year data are available for extensive analysis, 2008. Agriculture is responsible for the creation of 261,101 jobs, or 16.6% the state's jobs, \$9.6B or 15.6% of the state labor income and \$16.3B or 17.0% of the state's value added. While agriculture generates value added, employment and wages in all of the study sectors, roughly 48% of agriculture's contribution occurs in industries outside of agriculture such as Wholesale Trade, Real Estate and Rental, and Transportation and Warehousing. Individually, the crop, animal agriculture and forestry sectors provide the catalyst for the direct creation of \$3.3B, \$2.6B and \$2.6B, respectively, in value added and 56,051 crop sector jobs, 57,601 animal agriculture sector jobs and 34,065 forest sector jobs.

Results

The total impact of agriculture on the Arkansas economy has remained relatively constant in the past several years despite depressed agricultural commodity prices and market imbalances in supply and demand. Arkansas remains more dependent upon agriculture for its Gross Domestic Product by State than do its neighbors in the Southeast. The vital importance of agriculture to Arkansas' economy, particularly rural areas of the state with limited alternatives for economic activity and growth is highlighted by the significant economic activity generated in associated industrial and human service sectors as a result of the indirect and induced impacts of agriculture. Research results of this project are highlighted to assist governmental and business personnel and policymakers in deciding upon and pursuing appropriate and positive courses of action that directly and indirectly affect the agricultural and rural communities of Arkansas.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics
608	Community Resource Planning and Development

Outcome #7

1. Outcome Measures

Number of participants who increase their knowledge of individual and family resource management.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	2031

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Family Focus:

As in many states across the nation, Arkansas families are struggling to adjust to tough economic times. Individuals and families aspire to remain financially secure while facing economic downturn, poverty, and job loss. Food and fuel prices are rising faster than consumer price index. The consumer price index for all items minus food and energy rose 0.8% over the year while the food index rose 1.4%. USDA is predicting overall food inflation to be 2-3% next year. Fresh vegetable prices are up 4.4% from last year. Prices of many staples have risen sharply in recent months. Many Arkansas families already live in food insecure households.

Young Adult Focus:

According to the most recent national Jump\$tart survey of high school seniors, the financial literacy of high school students has fallen to its lowest level ever (2008). Arkansas students scored just below the national average with an overall score of 47. Financial education is especially critical for Arkansas youth because of high poverty rates across the state. Poverty rates have increased since 2005 with pockets of extreme poverty throughout the state.

According to the Survey of Consumer Payment Choice by the Federal Reserve Bank of Boston (January 2010), the average age a U.S. consumer gets their first credit card is 20.8. Another survey, How Undergraduate Students Use Credit Cards, by Sallie Mae (April, 2009) reported that 84% of American undergraduate students have a credit card, with half having four or more credit cards. Since 2004, students who arrived on college campuses as freshmen with a credit card already in hand have increased from 23% to 39%. According to "Generation Broke: Growth of Debt Among Young Americans," young adults ages 18-24 now have the second highest rate of bankruptcy in the country.

In a survey of young adults ages 23-28 (Charles Schwab 2009 Young Adults & Money Survey), 71% indicated that they are very concerned about the country's economic future. On average, they have more than \$14,000 in debt, carry a credit card balance, and don't save for the future. More than 40% of the young adults surveyed, stated that they wish they had been taught more about budgeting and saving before they entered the workforce. Looking at a younger group, a survey of teens found that many don't know how to budget, don't understand saving, and are unsure about how to invest.

What has been done

Family Focus:

One way that families can respond is by adjusting flexible expenses. While some expenses, such as mortgage and car payment, are set. Other spending categories such as food are more flexible. With the right strategies, families can maximize the use of their food dollars. Cooperative

Extension Service educational efforts provided Arkansas consumers with money management knowledge and skills that are critical to maintaining financial security.

Young Adult Focus:

The Cooperative Extension Service targeted personal financial education programs to meet the needs of today's young adults. The Arkansas Service Commission contacted the Cooperative Extension Service to provide training for AmeriCorps program graduates in several locations across the state. Multi-county AmeriCorps training events were held in Monticello (2 days), Little Rock (1 day), and Springdale (1 day). Materials developed included lesson guide, script, power point, activities, handouts, and evaluation tool. 264 young adults attended the sessions and reported intended behavior change including setting financial goals (58%), creating and using a spending plan (69%), and checking credit reports (70%).

Results

Family Focus:

More than 2000 individuals indicated that they increased their knowledge of personal financial management practices. Nearly 800 program participants reported making at least one positive change in their money management practices. Specific educational efforts focused on helping consumers to make the most of their household food budgets. Participants were instructed about smart shopping practices including using coupons to save money. Evaluations revealed that 279 consumers saved \$32,603 over a period of 15 weeks or less. One participant said "This was an easy way to stretch my food dollars and required very little work or effort. I saved over \$467 which is huge since I am newly retired." Another said "I was able to save over \$1,186 for things I was going to buy anyway! Thank you!"

Young Adult Focus:

Other programs were designed to target older youth and young adults. The College Student Budget was presented to 292 students on two different campuses. Participants reported being more likely to make a spending plan (61%) and more likely to stick to a budget (87%). More than 100 special needs high school seniors participated in an educational program on money management as part of a multi-county Transition Fair. High school students across the state participated in personal finance simulations in 11 counties with 996 participants. Students increased understanding about credit (82%) and budgeting (77%).

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #8

1. Outcome Measures

Economic Feasibility of On-Farm Grain Storage (Quantitative measure included in Outcome #1)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The interest in grain storage in Arkansas and other states has escalated in recent years. While Arkansas has historically relied heavily on off-farm (commercial) storage, a number of factors have led to increases in the amount of on-farm storage. In addition to the increasing demand for U.S. corn and soybeans, some additional reasons for the interest in on-farm storage are (1) increasing acreage of specialty crops and the need to preserve the identity of crops; (2) farmers changing their crop mixes due to production flexibility; (3) producers using larger trucks, making it easier for them to haul grain directly to its final destination, thereby bypassing local grain elevators; (4) harvest time bottleneck concerns; (5) commercial grain drying costs; and (6) basis and futures price volatility.

What has been done

Agricultural Economics and Agribusiness (AEAB) in cooperation with Biological and Agricultural Engineering (BAE) plays a vital role in helping producers assess the cost of on-farm storage. Grain storage costs have both fixed and variable components. To assist producers in making on-farm storage investment decisions, team members from AEAB and BAE designed a user-friendly spreadsheet model that provides estimates as to what grain storage facility costs might be based on a number of design variables. This decision aid is now available on the University of Arkansas Cooperative Extension Service website.

Results

On-farm storage capacities around the state range from approximately 9,000 to 200,000 bushels with total investments ranging from \$30,000 to in excess of \$600,000. The choice of storage options depends on the relative cost of each one and how it fits into the producer's overall harvesting, handling and marketing system. First, bin costs vary widely, depending on options and types of equipment. Construction site preparation can also affect total investment. Therefore an individualized and unique analysis must be prepared for each storage facility. Given the average size investment of these facilities it is crucial for the investor to obtain a preliminary assessment of the feasibility of on-farm storage.

Storing grain beyond harvest greatly increases the producer's marketing opportunities, flexibility, and possibly net selling price. From a producer's perspective, commercial storage costs are characterized as being variable cost only. Statewide commercial grain storage costs range from 5¢ to 10¢ per bushel per month. In addition, commercial grain drying costs for Arkansas

producers can be \$30 to \$70 per acre depending upon crop, yield, and grain moisture content. Given the significance of commercial grain storage and drying costs, Arkansas' producers certainly have a financial incentive to assess the costs and benefits to their operation that may be accrued from on-farm storage facilities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
603	Market Economics
604	Marketing and Distribution Practices

Outcome #9

1. Outcome Measures

Producers Gained Knowledge of Commodity Marketing Skills in a Variety of Farm Business Situations (Quantitative measure included in Outcome #1)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Arkansas producers find themselves today in a turbulent marketing environment that includes both a worldwide perspective and greater speculation in agricultural commodities. Extreme commodity and input price volatility requires producers to have a better understanding of budgeting and commodity marketing for the purpose of managing price risk.

What has been done

Row crop and livestock producers throughout Arkansas can benefit from educational programs that address commodity marketing concerns. Short courses and seminars are available to agricultural producers, agricultural lenders, and other interested parties. The curriculum consists of: cash marketing, marketing plans, technical analysis, futures and options, market outlook, and other marketing related skills such as identifying production costs and determining break-even prices. The intent of these courses and seminars is to provide participants with both knowledge and skills to apply in a variety of farm business situations.

County extension offices and agricultural lenders are increasingly offering this type of educational programming in a traditional classroom setting or through small group meetings such as local marketing clubs to help increase grower knowledge of price risk management. In addition, assistance is also offered through individualized instruction. Instructors are frequently in contact with clientele to review and evaluate progress on course content.

Results

For many, futures and options can be complicated and mastery of this subject matter can take years. Program participants in four (4) counties were introduced to and practiced using a variety of pricing tools to develop knowledge and confidence. Generally, each workshop was designed as a three-hour program, with an in-depth review of pricing tools, ranging from a basic forward contract to options strategies that establish minimum and maximum prices.

Following these courses and seminars, some participants extended their knowledge to other producers by providing leadership for marketing clubs. Local marketing clubs have created additional opportunities for extension staff to communicate marketing skills to a broader audience of producers. Clientele participants receive financial benefit from their education as well as other skills. Many producers report the adoption of a written marketing plan and greater confidence and willingness to use a variety of marketing tools.

County extension agents have received positive feedback through evaluations and are pleased with the participation in these workshops. Additional county offices will offer educational seminars and workshops in 2011 to help increase grower and agricultural lender knowledge of risk management using commodity futures, options, and other cash marketing instruments.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
603	Market Economics
604	Marketing and Distribution Practices

Outcome #10

1. Outcome Measures

Evaluation of the COTMAN Program (Quantitative measure included in Outcome #1)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

COTMAN is an in-season cotton crop information and monitoring system used to track physiological development and crop maturity to provide guidance on optimal timing of insecticide and defoliation applications, to improve economic returns and environmental sustainability. It has been available as PC software since 1994, designed for use by producers, consultants and researchers. A need has arisen to assess the strengths and weaknesses of COTMAN from the user's perspective--to identify barriers and incentives for adoption, assess usability, identify educational and support needs, and to direct efforts for future software development and delivery.

What has been done

A study using two focus groups--consultant COTMAN users and consultant COTMAN non-users was conducted in January 2010. Both groups (six participants per group) were asked to respond to open ended questions framed to introduce the topics of 1) barriers and incentives to adoption, 2) software usability enhancements, 3) education and support needs and 4) future software/hardware development directions. Consultants were characterized by geographic location, years of experience, number of clientele, clientele acreage and years of experience with COTMAN. Qualitative responses to the following questions were summarized and compared between groups. What are incentives to use COTMAN? What are barriers to using COTMAN? What are useful production management software functions? Is COTMAN missing important functions or features? Does COTMAN have features not needed? What aspect of COTMAN needs most improvement? What is the best way to support COTMAN or production management software? Are software tools other than COTMAN used? How likely are you to use COTMAN in the future?

Results

While the focus group study results cannot be used as estimates of a population response, they do provide invaluable information on the scope of problems and prospects for enhancing the development and usefulness of COTMAN. The responses indicated that improvements are needed to expand adoption and use of COTMAN. Enhancements to data collection, hardware, weather tracking, and reporting of results are needed. More training and field level support are needed. With improvements all respondents indicated that they would be interested in potentially using COTMAN. Enhancing COTMAN will result in better informed decision-making and management of cotton production in the United States. Improved efficiency in use of costly insecticides and defoliantes will reduce costs of production, increase yields and result in higher profitability for cotton producers, making U.S. cotton more competitive in domestic and global markets.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation

- 603 Market Economics
- 604 Marketing and Distribution Practices

Outcome #11

1. Outcome Measures

Assessment of Preparedness for Agricultural Bioterrorism in Arkansas (Quantitative measure included in Outcome #1)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Agricultural bioterrorism is one of the important issues that emerged after the terrorist attacks of September 11, 2001 and subsequent anthrax related threats in the United States. The use of biological weapons to cause destruction of agriculture and agriculture related industries in various ways has become a menacing possibility. Any potential agroterrorism event can have local, national and international repercussions for producers, consumers, and the food and feed processing and distribution system. The Arkansas grain, feed and oilseeds industry is very important economically both in terms of domestic use and international exports.

The Agriculture Bioterrorism Protection Act of 2002 deals with the protection of U.S. agriculture. Under the Act the Food and Drug Administration is charged with regulation of the grain and oilseed industry. Specifically, the domestic and foreign facilities (and their U.S. agents) that "manufacture, process, pack or hold for human or animal consumption in the U.S". were to be registered with the FDA on Oct. 10, 2003. Facility registration is required for grain elevators, feed mills, flour mills, corn and oilseed processors, pet food manufacturers, renderers and others. Facilities also need to establish and maintain records containing information that is "reasonably available" to identify immediate previous source, immediate subsequent recipient, dates of inbound and outbound shipments, type and quantity of agricultural commodity received and shipped, identity and contact information of the transporter.

What has been done

To assess the preparedness of Arkansas grain, feed and oilseed facilities for agricultural bioterrorism, a questionnaire was sent out to all Arkansas grain and feed elevators and

processors as well as seed and feed dealers. The survey was mailed to the grain and oilseed facilities in the state of Arkansas in July 2010 and 48 facilities responded to the survey. Information on facility type, size and history of vandalism, unauthorized entry, intentional contamination, sabotage, theft or threats was obtained. Information on testing procedures and plant security were also obtained. The study also assessed whether changes to preparedness had changed following the enactment and implementation of the Agriculture Bioterrorism Protection Act of 2002.

Results

The Arkansas grain and oilseed industry and government agricultural bioterrorism regulators will be helped by the information reported from this survey. This assessment provides a useful evaluation of the readiness of the Arkansas grain and oilseed industry to address risks associated with agricultural bioterrorism. The study found that record-keeping systems that track commodities were in place in 71% of facilities before 2002 and 17% added systems after 2002. Over two-thirds of the facilities do not have quarantine procedures. Soybean processors and rice mills were most likely to have those procedures in place. Employee training for security and disaster-specific employee training were added by 19% of facilities after 2002. Currently 93% have employees trained to report suspicious activity. Computer and on-line security was added by 21% and a formal agreement with first responders was added by 14% since 2002. Still, about half of the facilities have no computer security measures, disaster training or first responder agreements. The study will be presented at the 2011 SAEA annual meeting as a selected paper. All Arkansas grain, feed and oilseed facilities and relevant government agencies will be sent copies of the report.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics
606	International Trade and Development
608	Community Resource Planning and Development
609	Economic Theory and Methods
610	Domestic Policy Analysis
611	Foreign Policy and Programs
801	Individual and Family Resource Management
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

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.)
- Other (Interstate Policy Issues)

Brief Explanation

The 2009/10 fiscal year was one of the most challenging periods for Arkansas farmers, ranchers, businesses, communities, and state and local government due to punishing weather events, recessionary impacts and the ongoing financial crisis.

The 2009 and 2010 weather issues were extremely damaging to Arkansas' agricultural sector. For row crop producers 2009 was a historic wet planting and growing season and the rainy harvest period was one of the worst on record slowing harvest progress to a crawl. The problematic 2009 fall harvest dramatically impacted yield and quality for Arkansas rice, cotton, soybean, and feed grain producers.

In 2010 the weather pattern shifted from the influence of the global El Nino weather pattern, which brought the devastatingly wet 2009 planting, production, and harvest season, to the influence of a La Nina weather pattern, which for Arkansas tends to be droughty with periods of excessive heat.

The lingering El Nino weather influence remained uncharacteristically problematic for the 2010 row crop planting season. The rapid emergence of the global La Nina influence brought the expected and abnormal dry conditions but also introduced the unexpected historic heat stress to crops and livestock.

Rice producers experienced devastating reductions in their milling rate and grain producers as a group saw an abnormal wide range of yields. Grain producers experienced in many cases uncharacteristically low yields.

Weak economic conditions: Going into the 2009/10 fiscal year the University of Arkansas Division of Agriculture clientele were voicing two key major concerns: First, they were concerned about the recession's economic impact on their farm or business, government sector or community; and Second, they were concerned about the financial crisis' status and/or duration and economic impact on their farm or business, government sector or community.

By September 20, 2010 the recession that began in December 2007 was officially identified as having ended June 2009. The recession lasted 18 months, which makes it the

longest of any recession since World War II. Previously the longest postwar recessions were those of 1973-75 and 1981-82, both of which lasted 16 months.

Now the question from our broad clientele was: Is the Financial Crisis over? The quick answer was the ongoing financial crisis continues.

This answer generated two key questions:
Why hasn't an extended long term recovery begun?
Why isn't the Financial Crisis over?

Typically with American recessions a quick rebound is expected, since tight monetary policy is normally the cause of U.S. recessions. The expectation was that when monetary policy was loosened, demand along with the economy would rebound.

What was different about this recession was it resulted from a financial crisis. The U.S. and the European area specifically have an almost indescribable debt crisis and debt burden that must be managed. Recoveries after financial crises are normally weak and slow as banking systems, businesses, individuals and national and local governments repair and rebuilt balance-sheets and typically, this period of debt reduction lasts around seven-plus years.

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

Evaluation Results

Economics and Commerce utilizes a variety of evaluation methods appropriate for the scope of programming.

Key Items of Evaluation

An example from our Family Resource Management Program includes the Ready, Set, Graduate program.

Issue

Youth financial literacy is low as reported by the national JumpStart Coalition for Youth Personal Financial Literacy. Most High School students are failing in their knowledge of personal financial management. Ready, Set, Graduate is a one day youth financial management program that combines learning sessions with real life simulation to equip graduating seniors with necessary financial management skills to get them started on their life journey.

What has been done

Ready, Set, Graduate is delivered to graduating High School seniors at their school. Students participate in three morning sessions on budgeting, credit, and banking presented by volunteer personnel from local banks. The afternoon session "The Mall of Life" involves community business people, volunteers, and bank personnel. Students choose a career and receive a designated salary and taxes based on their salary. Then they visit stations to purchase insurance, groceries, transportation, housing, utilities, entertainment, and personal care items among other "necessities" for living on their own. They complete a personal budget as they visit each station. When complete, they have a better idea of what it really takes to pay their own way.

Results

The following is one example of the overall differences that now exist at the Clay County High School as a result of this program. Clay County High School graduates are now better equipped to handle their personal finances. Studies show that when students learn about saving, wise credit decisions, and responsible financial management they are more likely to save, use credit wisely and act financially responsible.

Students reported an increase in understanding after the program:

- Credit Cards: 82%
- Credit decisions will impact my future: 76%
- Budgeting: 77%
- Banking Services: 76%
- Writing a Check: 48%
- Filing out a Deposit Slip: 64%
- Endorsing a Check: 56%
- Purchasing a Car/Home: 81%
- Getting a Bank Loan: 81%
- Cost of Insurance: 75%
- Cost of Utilities: 70%

Students plan to do the following:

- Live within my means: 66%
- Balance my checking account with my bank statement monthly: 72%
- Be aware of cash traps and credit problems: 85%