2012 Louisiana State University Combined Research and Extension Annual Report of Accomplishments and Results

Status: Accepted

Date Accepted: 06/10/2013

I. Report Overview

1. Executive Summary

The LSU Agricultural Center (LSU AgCenter) includes the Louisiana Agricultural Experiment Station (LAES) and the Louisiana Cooperative Extension Service (LCES). The mission of the LSU AgCenter is to enhance the quality of life for the people of Louisiana through research and extension programs that develop the best use of natural resources, conserve and protect the environment, enhance the development of existing and new agricultural and related enterprises, develop human and community resources, and fulfill the acts of authorization and mandates of state and federal legislative bodies.

The LSU AgCenter is one of 10 campuses in the LSU System. Headquartered in Baton Rouge, LA, the LSU AgCenter shares physical facilities with the LSU A&M campus, which is the state's flagship university. Currently, there is some discussion about a major reorganization within the LSU System which would, in effect, combine all of the existing campuses into one and result in a very different administrative structure. Multiple transition teams have been appointed to study and make recommendations regarding this process. The LSU AgCenter is represented on most of those transition teams. As of this date, the LSU AgCenter has faculty and staff located in 12 research and extension departments on campus. Regional Directors in each of the five (5) geographic regions of the state administratively supervise faculty and staff at 17 agricultural experiment stations, 64 parish extension offices and in the regional offices.

In FY2012, approximately 15.82% of the LSU AgCenter's overall budget was provided by federal funds; 53.76% by state funds and 30.42% provided by self-generated funds, grants, contracts and gifts. Limited resources at all levels are making it increasingly difficult to maintain vital LSU AgCenter programs. State budget cuts exceeding 25% since 2008 have significantly affected programs jointly funded with state and federal dollars. Reduced operating and travel budgets, coupled with a reduction of over 340 FTEs/SYs across the organization in the last five years greatly challenge the ability to maintain the traditional level of program diversity across both research and extension. Nearly 100 of the 340 FTE reductions were from retirements, resulting in the loss of faculty and staff with a wealth of knowledge and expertise in major program areas. To meet these challenges, every program and unit in the LSU AgCenter has been and will continue to be under critical review to assess impact and relevance to the LSU AgCenter's role, scope and mission. The operational business plan is being continuously revised to include proposed measures to improve program efficiency and effectiveness. Throughout this process, some programs have been consolidated or realigned while others are being eliminated. Across program areas, increased reliance on new technologies and tools such as social media and virtual delivery methods are evident. Enhanced efforts to secure sustainable funding from other sources such as grants and local funds and dependence on trained volunteers have allowed the continued delivery of many key programs that are considered to be the highest priority. Sustaining strong, high quality research and extension programs in core mission areas will continue to be the goal as the LSU AgCenter adjusts to these new budget realities.

Throughout this report, there are illustrations demonstrating the full impact of significant budget reductions on the LSU AgCenter's research productivity and program delivery emphasis. Much of the organization's effort in the past year has focused on responding to economic challenges, restructuring and identifying core areas.

During FY2012, the LSU AgCenter directed research and extension education programs in 11 priority program areas:

1. **Animal Enterprises** focusing on the primary livestock and aquaculture industries in the state
2. **Childhood Obesity** focusing on Smart Bodies, the 4-H Healthy Living Initiative and other youth obesity programs
3. **Field Crops** focusing on the primary Louisiana crops and cropping systems
4. **Food Safety** focusing on seafood safety, consumer food safety and certification programs
5. **Global Food Security & Hunger** focusing on food accessibility and affordability
6. **Horticulture** focusing on consumer horticulture; urban floriculture; and home, school and community gardens
7. **Human Nutrition and Food (adults)** focusing on prevention of chronic disease and obesity-related illnesses in Louisiana adults
8. **Natural Resources & the Environment** focusing on the state's forestry industry, watershed ecology, coastal plants, water quality and waste issues
9. **Resilient Communities and Economies** focusing on disaster education and recovery, risk awareness, sustainable housing, agritourism, and rural broadband connectivity
10. **Sustainable Energy** focusing on biofuels and biomass
11. **Youth Development** focusing on belonging

NOTE: This report reflects the realignment of previously-identified NIFA planned program areas into the state's priority program areas. While the planned program areas have been re-titled to better meet our in-state needs, research and extension work is still being conducted in each of the five NIFA priority areas.

Significant effort was made this year to more effectively evaluate and communicate the impact of LSU AgCenter program efforts to key stakeholders and to engage them in charting a path for the future of the LSU AgCenter. The LSU AgCenter follows a four-year plan to evaluate its key programs. The impact reports contained within each program priority area report reflect the results of the most recent evaluations conducted in that area. To more effectively communicate LSU AgCenter efforts and impacts, Parish Profiles and Experiment Station Profiles were updated. These two-page documents are a snapshot of the parish or station which highlight major program impacts and identify emerging issues and LSU AgCenter plans to address those issues. Communicating the public value of LSU AgCenter programs was also part of this process.

Research Project Summary

Louisiana Agricultural Experiment Station (LAES) scientists, located on the Louisiana State University and Agricultural and Mechanical College campus and at Research Stations distributed across the state, continue to serve stakeholders by coordinating research relevant to Louisiana agriculture. Research scientists have been successful in obtaining significant levels of funding from external agencies and private industries to support projects. Research projects continue to become more focused and follow the operational business plan detailing core areas for the future. More faculty also have become involved in integrated projects to identify stakeholder needs and allowing a more rapid distribution of science-based information. Results are disseminated to producers, consultants, agribusinesses, government agencies, and other stakeholders, both directly and through a statewide network of extension agents and integrated faculty. Research activities were suspended at the Coastal Research Station in South Louisiana. The facilities were damaged by hurricane events and faculty projects were relocated to other research stations and the main campus in Baton Rouge.

Extension Program Summary

In spite of the reduction in the number of Extension faculty and staff positions during the previous five years, Louisiana Cooperative Extension Service (LCES) effectively maintained delivery of all main programs in each of Louisiana's 64 parishes. These programs were conducted by Extension faculty housed in parish, regional and campus offices. Programs are created in response to needs identified by stakeholders. Research-based information is disseminated to stakeholders through time-honored delivery methods such as group meetings, one-on-one contacts and printed media, as well as through more current delivery methods such as Web-based technology and social media. Significant organizational and program changes in LCES in the past year include the merger of the Family and Consumer Science (FCS) program with the 4-H youth development program resulting in the new Department of 4-H Youth and Family Development. FCS programming within the new department emphasizes childhood obesity, nutrition and health, while de-emphasizing family resource management and family development program efforts. These two programming areas are transitioning to youth-focused audiences in 4-H youth development.

Local financial salary support is being sought at the parish level to bring Louisiana more in line with the three-partner funding support model and help bridge the gap left by reductions in federal and state funding. This was initiated in 2004 and a goal of 20% local funding (salary support) was set for July 2012 to bring the state up to the southern region average of salary and benefits support for agents and clerical staff housed in parish LCES offices provided by local governments. This is in addition to the office and other support provided by parish governments throughout the state. The value of salary and office support in Louisiana is over $5.0 million dollars annually.

Over the past several years, increased emphasis has been placed on accountability and reporting and significant changes have been made in the extension reporting system. Additional training was conducted, frequency of reporting was increased and more individuals were required to report into the system in order to achieve improved documentation of overall program effort.

NOTE: Extension numbers within this report are a reflection of the effort reported by extension faculty and may show variance from previous years due to the change in the institution's data collection process. Also of note is that FTEs reported below represent all professional FTEs regardless of funding source, which had not been previously reported.

Summary

Although undergoing major changes and facing repeated economic challenges, the LSU AgCenter has and will continue to deliver high-quality, relevant, timely and effective programs to meet stakeholder needs.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	240.0	0.0	147.0	0.0
Actual	304.0	0.0	139.3	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

2. Brief Explanation

Historically, NIFA program reviews have been conducted on a rotational basis across departments and primary program areas. Additionally, stakeholders provide annual reviews of LSU AgCenter programs through the advisory leadership system. In light of the current budget situation and the reorganization, the most intense reviews during the reporting year have been conducted by an internal team of LSU AgCenter administrators and various stakeholder groups. These groups have evaluated each and every program and position in the LSU AgCenter in an effort to identify the most effective programs and to formulate a plan for eliminating, reducing and/or combining less effective programs in order to maximize limited resources. Key factors considered in making specific programmatic decisions included the program's relevance to the LSU AgCenter mission, impact on the state, economic development potential, responsiveness to stakeholder needs, industry and clientele support and extramural funding opportunities. A detailed business plan outlining the findings and recommendations of this group has been developed and is providing guidance for significant program modifications throughout the organization.

III. Stakeholder Input

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

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals

Brief explanation.

Input is requested from both external and internal stakeholders. Extension programs are guided by input from overall parish (county) advisory leadership councils, subject matter specific advisory groups which meet on an as-needed basis and various grass roots meetings of stakeholders across the state. Several LSU AgCenter departments and Regions also have advisory committees which guide their efforts to establish priorities. Agricultural commodity groups and collaborating agencies provide valuable input into LSU AgCenter research and extension programs.

Internally, members elected to the LSU AgCenter's Faculty Council represent the interests of faculty in administrative and programmatic issues. Additionally, extension and research faculty convene at various times during the year in a format known as LSU AgCenter Exchange (ACE) Groups. ACE Groups primarily function to:

• Improve communication and networking among research and extension faculty with similar responsibilities in program areas
• Exchange information about new program direction and completed projects
• Identify priorities within each program area
• Identify gaps in research and extension programming and activities

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 External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys

Brief explanation.

A concerted effort is made by the institution to identify, recruit and retain stakeholders who provide valuable input into the programming process. It is intended that these stakeholders represent the target population for each program area and that they have a vested interest in the success of the program. The stakeholders are often identified by LSU AgCenter faculty who have had an opportunity to communicate with them through various extension and research efforts or the prospective stakeholder's interest in a particular issue or targeted outcome is known. Commodity groups and partnering agencies and organizations also provide valuable input into this process.

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
- Survey specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public
- Survey of selected individuals from the general public

Brief explanation.

Input is primarily collected from stakeholders through the Advisory Leadership Council System. Advisory Council meetings were held in all 64 parishes (counties) during this reporting period. Reports of significant program accomplishments and impacts are given and typically a modified nominal group technique is used to identify and prioritize critical issues which call for subsequent LSU AgCenter programming. Additionally, input is collected from stakeholders through annual base program evaluations which are conducted across all program areas in a four-year cycle. Focus group meetings, meetings with commodity groups and surveys are conducted throughout the year to receive additional input from stakeholders. Grass roots meetings, other listening sessions and various forms of dialogue using social media tools are also being used more frequently to gather stakeholder input.

3. A statement of how the input will be considered

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

Brief explanation.

Stakeholder input is used to establish program direction for both research and extension including the identification of short, medium and long term targeted outcomes and the inputs and outputs necessary to achieve those outcomes. As resources become more scarce, the use of stakeholder input is critical in identifying areas in which resources can be best leveraged and which programs have the greatest public value. The input was used extensively in the development of the LSU AgCenter Business Plan and significant organizational restructuring is ongoing as a result of that input. As the AgCenter continues to evolve in response to the state's changing needs, the voice of our clients will continue to be heard through their active engagement in the programming process.

Brief Explanation of what you learned from your Stakeholders

Our stakeholders have asked us to focus on the following issues:

- Multiplying agricultural productivity and sustaining natural resources
- Conserving and protecting the environment by addressing water quality and waste management issues
- Enhancing and developing agricultural and value-added enterprises
- Expanding workforce development by developing leadership and community resources
- Providing positive youth development experiences for Louisiana youth
- Promoting healthy and productive families, youth and individuals, focusing specifically on childhood obesity and food safety

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
5108485	0	3868468	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	5264974	0	3997083	0
Actual Matching	5264974	0	3997083	0
Actual All Other	18541311	0	52677196	0
Total Actual Expended	29071259	0	60671362	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous				
Carryover	3377330	0	1220756	0

V. Planned Program Table of Content

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Animal Enterprises-Global Food Security and Hunger

☑ Reporting on this Program

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	0%		15%	
302	Nutrient Utilization in Animals	0%		10%	
303	Genetic Improvement of Animals	0%		10%	
304	Animal Genome	0%		5%	
305	Animal Physiological Processes	0%		5%	
307	Animal Management Systems	100%		20%	
308	Improved Animal Products (Before Harvest)	0%		5%	
311	Animal Diseases	0%		10%	
313	Internal Parasites in Animals	0%		5%	
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	0%		5%	
601	Economics of Agricultural Production and Farm Management	0%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Actual Paid Professional	23.7	0.0	27.3	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
432980	0	898630	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
432980	0	898630	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
1524798	0	12933149	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The LSU AgCenter Animal Enterprises program includes livestock and aquaculture production systems. The state's livestock industry includes approximately 800,000 head of livestock on 40,000 farms and 480 broiler producers that produce 900 million pounds of broiler meat. Overall, the total livestock industry was valued at $2.6 billion dollars in 2011, based on gross farm value and value added indexes. Additionally, the Louisiana aquaculture industry had 192,000 acres in production on 2,300 farms with a total value of $442 million dollars in 2011. In the previous fiscal year, most of this work was reported under the Global Food Security & Hunger planned program area. While some of the activity in this planned program area still relates to the Global Food Security & Hunger initiative, the AgCenter has chosen to report it in this state-defined planned program area.

Activities include research and extension programs directed towards animal and aquaculture agriculture. Extension outreach uses group and individual methods; mass media; applied research studies; result demonstrations; and field days, which incorporate the latest technological advances and use of social media. Research outputs are measured through scientific presentations at field days, local and national meetings and publications.

This year, the dairy and poultry programs were the livestock work topics evaluated in our four-year base program evaluation cycle. The poultry evaluation focused on environmental-related impacts and thus is included in the Natural Resources & Environment section of this report. The impact report for the dairy evaluation is included in this Animal Enterprises section.

2. Brief description of the target audience

Livestock and poultry producers, crawfish farmers and consumer groups related to enhancing the value of animal commodities.

3. How was eXtension used?

The resources provided through eXtension were used to supplement and enhance learning experiences provided by LSU AgCenter faculty. Animal science state specialists have been involved in the development, implementation, and management of livestock and poultry Community of Practice (CoP). The state poultry specialist is part of a team that developed the small and backyard poultry flock CoP. The resources on recreational pond management have been used substantially and the state aquaculture specialist serves on the Fresh Water Aquaculture CoP and as the coordinator for the recreational pond section.

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	52673	435317	20629	0

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

Patent Applications Submitted

Year: 2012
Actual: 1

Patents listed
Ligand/lytic peptide methods of use

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	10	49	59

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Web page visits

Year	Actual
2012	1071083

Output #2

Output Measure

- Web page views

Year	Actual
2012	1344833

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percentage of livestock owners/producers that adopt or plan to adopt recommended practices to improve quality and profitability.
2	Percentage of aquaculture producers that adopt or plan to adopt recommended practices to improve quality and profitability.

Outcome #1

1. Outcome Measures

Percentage of livestock owners/producers that adopt or plan to adopt recommended practices to improve quality and profitability.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	71

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Milk is produced by approximately 140 producers located in 14 parishes in the state. However, the majority of the dairy cows, dairy farms and milk production occurs in three parishes located in the Southeastern part of the state. There are about 16,000 head of dairy cattle in the state. Total milk production was 221.4 million pounds with an on-farm value of $47.8 million. The total economic contribution from dairying in Louisiana, including milk sales, animal sales and additional processing was $130.6 million. Research shows that producers can improve milk production, reproductive efficiency and milk quality by following recommended research-based production practices.

What has been done
The LSU AgCenter provides an ongoing dairy production education program in which county agents, area agents and specialists visit farms to advise dairy producers on specific management problems, provide educational seminars and workshops, host field days, conduct dairy day programs and collaborate with producers to provide demonstrations - to disseminate information on the latest production technologies and techniques. LSU AgCenter dairy team members work with colleagues at Mississippi State University to conduct an annual dairy management conference along with other dairy educational programs for producers in both states. LSU AgCenter team members provide farm press articles, circular letters, newsletters, fact sheets and publications; conduct radio and television interviews; and post information on the Web to reach producers and other dairy related industry personnel.

Results
A survey was conducted to determine adoption of recommended production practices. A total of fifty respondents provided valuable feedback on Extension dairy efforts. Practices adopted by producers were: Post-dipping cows (92%); Dry treat all cows (90%); Pre-dipping cows (88%);

Breed milking cows by artificial insemination at least 1st & 2nd service (83%); use Estrous Synchronization Protocols for cows (68%); Breed replacement heifers by artificial insemination (50%). Adoption of these practices could conservatively result in an increase of milk production revenue by $400-$500 per cow.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
303	Genetic Improvement of Animals
304	Animal Genome
305	Animal Physiological Processes
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
311	Animal Diseases
313	Internal Parasites in Animals
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
601	Economics of Agricultural Production and Farm Management

Outcome #2

1. Outcome Measures

Percentage of aquaculture producers that adopt or plan to adopt recommended practices to improve quality and profitability.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Rising input costs, global competition and increased regulations have strained Louisiana's $436 million dollar aquaculture industry, impacting over 3,300 producers. Sustained aquaculture

production and its benefits for rural economies will depend upon enhanced profitability, diversification and improved production and marketing efficiencies.

What has been done

Efforts have focused on refining crawfish management strategies, nutritional requirements for alligator and finfish production, technologies necessary for commercially viable marine baitfish culture, and techniques for improving spawning and production practices for various aquatic species. Findings have been extended via extension and refereed publications, individual contacts, Web-based resources, and producer meetings. Research priorities identified by producers are being incorporated into future research based on funding availability.

Results

Adoption of targeted recommended practices is estimated at over 50%. More efficient harvesting and management practices continue to decrease expenses for many of Louisiana's 1,200-plus crawfish farms by up to 20% while further increasing production in this $196 million industry. Lowering feed costs through improved formulations and digestibility will provide direct benefits for the state's $39 million alligator industry. Reproductive and other biological data continue to provide recommendations necessary to develop viable coastal baitfish aquaculture. New markets in aquaculture germplasm may eventually allow creation and sale of genetic improvements worldwide. Commercialization of alternative species will allow additional options for the state's producers. The Louisiana aquaculture industry will become more environmentally and economically sustainable as a result of these efforts.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy

Brief Explanation

V(I). Planned Program (Evaluation Studies)

Evaluation Results

See results section of dairy impact report.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Childhood Obesity

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
702	Requirements and Function of Nutrients and Other Food Components	0%		55%	
703	Nutrition Education and Behavior	50%		35%	
724	Healthy Lifestyle	50%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	8.0	0.0	2.0	0.0
Actual Paid Professional	17.3	0.0	1.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
315741	0	89378	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
315741	0	89378	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
1111926	0	172941	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Nutrition education programs targeting youth and their caregivers were conducted across Louisiana. The Smart Bodies Program was implemented in Louisiana with elementary school students through the 4-H program. Smart Bodies is an innovative program of nutrition and physical activity that is integrated into core curriculum academics to promote child wellness. Smart Bodies consists of three components: Body Walk, the OrganWise Guys (OWG), and Take 10! The Body Walk is a large exhibit where students explore how nutrition and healthy lifestyles influence various organs in the body at interactive learning stations. The OWG are fun characters that help children understand physiology and healthy behaviors through books, games, dolls and informational videos. The Take 10! and Wisercise classroom programs are grade-specific educational tools that encourage short bouts of physical activity integrated with academic lessons. Parent newsletters are monthly-themed and include tips for incorporating physical activity into family life and kid-friendly, low-cost recipes emphasizing fruits and vegetables.

2. Brief description of the target audience

The target audience includes public and private elementary schools in Louisiana and students in grades K-5 with emphasis on the youth populations associated with limited income families. The program creates public value by indirectly influencing school administrators, faculty, parents and siblings of participating students. Parents receive newsletters, while children are given Body Walk activity books, and the OWG and Take 10! Curricula are used by the classroom teacher. Parents have the opportunity to volunteer and participate in the Body Walk when the exhibit visits their child's school.

3. How was eXtension used?

Resources offered through eXtension were used to enhance educational efforts in planned presentations and in publications distributed to families.

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	40265	0	71059	864086

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

Patent Applications Submitted

Year:	2012
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	1	9	10

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2012	37933

Output #2

Output Measure

- Number of Web page visits

Year	Actual
2012	31388

Output #3

Output Measure

- Number of youth reached with Smart Bodies Program

Year	Actual
2012	39619

Output #4

Output Measure

- Number of elementary schools reached

Year	Actual
2012	116

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Louisiana youth and their caregivers adopt healthy lifestyle behaviors which will lead to reduced incidence of childhood obesity.

Outcome #1

1. Outcome Measures

Louisiana youth and their caregivers adopt healthy lifestyle behaviors which will lead to reduced incidence of childhood obesity.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
In Louisiana 27.1% of children ages 2-19 are considered overweight or obese. The state ranks 5th highest of the 50 U.S. states for overall prevalence of adult obesity with 33.4% of adults being obese. Increased obesity leads to increased rates of other chronic diseases such as diabetes, heart disease, and respiratory diseases, thus, increased future health costs. Louisiana has the 3rd highest rate of poverty in the nation with 28.8% of children and 20.4% of adults living in poverty.

What has been done
Extension agents and specialists were trained on the prevalence of chronic diseases in Louisiana and the related impact of diet. Smart Bodies, a nutrition education and physical activity program for children, was conducted in 116 schools with 39,619 youth, 2,125 teachers, and 2,345 volunteers participating. Family Nutrition Nights were conducted for low income parents and students in most parishes in Louisiana. Additionally, 5,773 youth, 1,699 adults, and 180 volunteers participated in the Body Walk via public events. School garden-based nutrition education programs were also conducted.

Results
Teachers participating in Smart Bodies who responded to a survey about their experience revealed that the average class size was 20 students. 80% of all teachers attend the teacher training and 82% attended the school assembly conducted by the AgCenter agent. Teachers reported that they used the Wisercise activities on average 3.1 times per week and the OWG materials 3.2 times per week. Comments from teacher and administration evaluations indicated that materials used helped school meet legislative and federal mandates for physical activity and nutrition.

Smart Bodies program evaluations indicated that student/youth participation in the program has increased nutrition, physical activity and physiological processes (i.e. organ systems) knowledge, in-school physical activity levels, and willingness to consume fruits and vegetables. Independent evaluations indicated students intended to be physically active, eat fruits and vegetables, drink milk and water (as opposed to soda), and eat a healthy breakfast daily.

4. Associated Knowledge Areas

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
724	Healthy Lifestyle

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

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

See results section of qualitative impact report.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Field Crops-Global Food Security and Hunger

☑ Reporting on this Program

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%	
136	Conservation of Biological Diversity	0%		5%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		5%	
202	Plant Genetic Resources	0%		5%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%		5%	
204	Plant Product Quality and Utility (Preharvest)	0%		5%	
205	Plant Management Systems	60%		10%	
206	Basic Plant Biology	0%		5%	
211	Insects, Mites, and Other Arthropods Affecting Plants	10%		10%	
212	Pathogens and Nematodes Affecting Plants	5%		10%	
213	Weeds Affecting Plants	5%		5%	
216	Integrated Pest Management Systems	10%		10%	
601	Economics of Agricultural Production and Farm Management	0%		10%	
606	International Trade and Development	0%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890

Actual Paid Professional	36.0	0.0	47.6	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
657049	0	1342792	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
657049	0	1342792	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
2313886	0	20518258	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

LSU AgCenter programs addressed yield, cultural practices, and pest management resulting in development of new varieties and integrated pest management strategies for Louisiana's major row crops. Educational activities include extension outreach using group and individual methods; and mass media; research studies; result demonstrations; and field days, all incorporating the latest technological advances and use of social media.

2. Brief description of the target audience

Approximately 6,000 growers with 2.8 million acres of land in production:

- **Cotton**--550 producers with 288,000 acres in production who produced 249 million pounds of cotton.
- **Feed grains**--1,700 producers with 700,000 acres in production who produced 86 million bushels of feed grains.
- **Rice**--1,050 producers with 417,000 acres in production who produced 2.8 billion pounds of rice.
- **Soybeans**--2,250 producers with 1 million acres in production who produced 38 million bushels of soybeans.
- **Sugarcane**--490 producers with 408,000 acres in production who produced 1.5 million tons (2.9 billion pounds) of raw sugar and 86 million gallons of molasses.
- **Sweet potatoes**--75 producers with 14,000 acres in production who produced 5.3 million bushels of sweet potatoes.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	139757	423746	13931	0

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

Patent Applications Submitted

Year: 2012

Actual: 2

Patents listed

Sweetpotato cultivar named "Bonita"

Rice Cultivar Designated 'CL152'

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	47	151	198

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Web page visits

Year	Actual
2012	2830415

Output #2

Output Measure

- Web page views

Year	Actual
2012	3481694

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Increased profitability and sustainability of Louisiana crops and cropping systems.

Outcome #1

1. Outcome Measures

Increased profitability and sustainability of Louisiana crops and cropping systems.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Louisiana's diverse agronomic cropping systems contributed over $3.25 billion to the state economy in 2011. Major crops ranked from highest to lowest in total value include: sugarcane, soybeans, feed grains (including corn), rice, cotton, sweet potato, and wheat. Environmental and economic challenges affect profitability. Variability in soil fertility, adverse climatic conditions and intense pest pressures can negatively impact crop yields and decrease production efficiency. High input costs and commodity price instability is a recurring concern. Research and outreach initiatives related to variety development, plant nutrition, pest management, cultural practices, and farm management are necessary to sustain crop production, improve crop yields and quality, and to ultimately contribute to profitability and sustainability of agronomic crop infrastructure in Louisiana.

What has been done
LSU AgCenter programs addressed yield, cultural practices, and pest management resulting in development of new varieties and integrated pest management strategies. Fungicides were used successfully on over 100,000 acres of sugarcane for the control of brown rust, representing the first time fungicides were widely used for disease control in sugarcane. Plant breeding efforts focused on rice, sugarcane, wheat, and sweet potato. Varieties developed at the LSU AgCenter accounted for over 65% of the rice acreage, 51% of the sugarcane acreage 95% of the sweet potato acreage and 40% of the wheat acreage in Louisiana in 2012. In addition, one sweet potato variety and one rice variety were released in 2012. Producer meetings, field days, on-farm verification programs, and educational publications, including web based information and social media, were used to promote new technologies.

Results

Implementing recommended management practices for various pests resulted in direct economic savings to producers and reduced environmental impacts due to adoption of thresholds and integrated pest management strategies. Production of new varieties developed in Louisiana contributed to improved yields and quality and increased profitability. Precision agricultural technologies, conservation tillage, and improved management of crop residues also contributed to more sustainable cropping systems. The adoption of revised crop fertilization recommendations allowed growers to improve efficiencies, optimize yields and increase revenue. Collaborative extension and research efforts in the areas of weed, insect, and disease management provided growers with multidisciplinary integrated pest management, environmentally-sound options for managing target pests which improved cost efficiencies and maximized crop quality. Diverse and successful crop production supported the entirety of the agricultural infrastructure in Louisiana by contributing to job retention and growth on-farm, in marketing venues and with allied industries.

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
136	Conservation of Biological Diversity
201	Plant Genome, Genetics, and Genetic Mechanisms
202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
206	Basic Plant Biology
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems
601	Economics of Agricultural Production and Farm Management
606	International Trade and Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

See qualitative impact report results section.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Food Access-Global Food Security and Hunger

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	50%		50%	
704	Nutrition and Hunger in the Population	50%		50%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	50.0	0.0	93.0	0.0
Actual Paid Professional	10.0	0.0	0.7	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
182432	0	11531	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
182432	0	11531	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
642460	0	93569	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Global Food Security and Hunger program in Louisiana focuses on the food accessibility issue and the SNAP program provides the primary mechanism for delivering this program.

Using a systems-based approach, this program targets the youth in the state that often do not have access to healthy foods for regular consumption. The overall goal is to create an environment of healthy, hunger-free kids. Sixteen (16) paraprofessionals support the work of extension faculty in delivering this program.

Activities include extension outreach using group and individual methods and mass media, all incorporating the latest technological advances and use of social media.

Note: Field crops, livestock, commercial fruits and vegetables and aquaculture programs have been moved to other sections of this report to better reflect the actual in-state programming.

2. Brief description of the target audience

Louisiana families and individuals living in poverty with limited access to fresh fruits and vegetables.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	30090	1040460	75985	1228049

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

Patent Applications Submitted

Year:	2012
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	0	2	2

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2012	41248

Output #2

Output Measure

- Number of Web page visits

Year	Actual
2012	34056

Output #3

Output Measure

- Number of new pesticide certifications (private and commercial) issued
  Not reporting on this Output for this Annual Report

Output #4

Output Measure

- Number of pesticide applicator certifications (private and commercial) renewed
  Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Adoption of recommended practices by Louisiana livestock producers
2	Adoption of recommended practices by Louisiana row crop producers
3	Adoption of recommended practices by Louisiana commercial fruit and vegetable producers
4	Adoption of recommended practices by Louisiana aquaculture producers
5	Percentage of Louisiana individuals below poverty level who adopt 3 or more practices regarding the use of limited resources to prepare and consume healthier foods.

Outcome #1

1. **Outcome Measures**

   Adoption of recommended practices by Louisiana livestock producers

   Not Reporting on this Outcome Measure

Outcome #2

1. **Outcome Measures**

   Adoption of recommended practices by Louisiana row crop producers

   Not Reporting on this Outcome Measure

Outcome #3

1. **Outcome Measures**

   Adoption of recommended practices by Louisiana commercial fruit and vegetable producers

   Not Reporting on this Outcome Measure

Outcome #4

1. **Outcome Measures**

   Adoption of recommended practices by Louisiana aquaculture producers

   Not Reporting on this Outcome Measure

Outcome #5

1. **Outcome Measures**

   Percentage of Louisiana individuals below poverty level who adopt 3 or more practices regarding the use of limited resources to prepare and consume healthier foods.

2. **Associated Institution Types**

   - 1862 Extension
   - 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	55

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Eighteen percent of Louisiana families with children and 25% of adults without children live in poverty. Poverty rates are higher among African Americans (43%) and for children 18 and under (31%). Louisiana ranks 15th in the country for SNAP participation in the following demographics: 31% White, 60% Black, and 3% Hispanic. For school lunch programs, 68% are represented by free and reduced-price students. Only 25% of adults eat five servings of fruits and vegetables daily and 39% are physically active. Louisiana ranks 48th in infant mortality rate in the U.S.

What has been done
SNAP-Ed agents and educators reached 15,715 youth and 22,531 families through direct education and 2,268,509 through indirect methods such as mass media including social media. Over 12,000 youth and 14,000 adults were involved in classes on dietary guidelines; 1,149 youth and 15,200 adults in food safety classes; 678 youth and 1560 adults in physical health classes; 1581 youth and 1882 adults in garden-based nutrition classes; and 2,248 adults in food budgeting workshops. Pre- and post-test measures with participants in series of classes were used to collect data for a pedometer-determined physical activity portion of the evaluation.

Results
Results indicate: 34% of pre-K youth increased their knowledge of healthier breakfast food choices; 75% of parents consider healthy food choices more often when meal planning; 70% of parents purchase more fruits for their children; 60% of parents incorporate more vegetables in their family meals; 60% of parents intend to serve more fruits and vegetables to their families; and 8% of parents now shop with a grocery list. A 40% increase was observed in the number of youth who consumed 3-5 servings of fruits and vegetables each day from pre- to post-test. Nearly 23% of participants in Family Nutrition Night series reported they were consuming whole wheat breads and 13.79% more frequently use the Nutrition Facts on food labels to make choices. Results also showed an increase of 11.49% in the number of parents who select low-fat or nonfat milk for their families.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

See qualitative impact report results section.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Food Safety

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
504	Home and Commercial Food Service	75%		0%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	0%		30%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	0%		40%	
723	Hazards to Human Health and Safety	10%		10%	
724	Healthy Lifestyle	15%		20%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	0.0	4.0	0.0
Actual Paid Professional	2.7	0.0	2.7	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
48758	0	63562	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
48758	0	63562	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
171708	0	942128	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Appropriate extension and research including result demonstrations, workshops, classes, certification programs, studies and effective use of a variety of media sources to address food safety-related issues.

2. Brief description of the target audience

Consumers, commercial seafood processors, children and food handlers including restaurateurs and food vendors

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	13493	366223	5975	0

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

Patent Applications Submitted

Year: 2012

Actual: 2

Patents listed

Rapid Assays for Detecting AdulterantShiga Toxin-Producing Escherichia Coli Serogroups

A Combined Purification and Enrichment Method for DHA Eidosapentaenoic (EPA) Docosahexaenoic

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	0	16	16

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of individuals who received seafood, meat and poultry HACCP training

Year	Actual
2012	88

Output #2

Output Measure

- Number of individuals who received ServSafe training

Year	Actual
2012	45

Output #3

Output Measure

- Number of individuals who received Sanitation Control Protocol training

Year	Actual
2012	27

Output #4

Output Measure

- Number of individuals who received Better Process Control School training for canned and acidified foods

Year	Actual
2012	38

Output #5

Output Measure

- Number of Web page visits

Year	Actual
2012	28672

Output #6

Output Measure

- Number of Web page views

Year	Actual
2012	32934

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Increase awareness, knowledge and/or skills regarding safe food handling and preparation by both commercial and non-commercial entities.
2	Identify ways to minimize food safety threats related to Louisiana-produced food products through research.

Outcome #1

1. Outcome Measures

Increase awareness, knowledge and/or skills regarding safe food handling and preparation by both commercial and non-commercial entities.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Changes in food production, processing and distribution have increased the scope of foodborne illness outbreaks resulting in national and multi-national occurrences. Food safety misinformation may result in illness or adverse financial consequences. Certain commercial processors and food handlers are required to have certified food safety training. Processors need updating and new food processors need assistance.

What has been done
LSU AgCenter faculty responded to media and consumer information requests on foodborne illness outbreaks and seafood safety post BP oil spill. Faculty conducted certified training in Sanitation Control Protocol (SCP); Seafood, Meat and Poutry Hazard Analysis and Critical Control Points (HACCP); Better Process Control School (BPCS - canned and acidified foods); and food handling (ServSafe). Participants included: HACCP-88; SCP-27; BPCS-38; ServSafe-ca.45. Two public service announcements were aired on Cox Cable "Cooking Up Louisiana" between Thanksgiving and Christmas related to heating and cooling foods and transporting, holding and reheating food.

Results
Louisiana consumers (30,000) learned recommended food safety practices and an estimated 200,000 consumers gained food safety knowledge. Post-oil spill seafood education targeted seafood processors, area leaders and a delegation from China. Faculty assisted processors in correcting deficiencies and becoming regulatory compliant. Processors were informed about new regulations and safety concerns pertinent for their facilities, especially the FDA Seafood Hazards Guide released in April, 2011. Entrepreneurs were helped to establish businesses. At least two of these entrepreneurs established a presence in regional grocery chains. Processors added new markets.

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety
724	Healthy Lifestyle

Outcome #2

1. Outcome Measures

Identify ways to minimize food safety threats related to Louisiana-produced food products through research.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Noroviruses (Caliciviridae), Vibrio vulnificus and Vibrio parahaemolyticus are the leading cause of foodborne outbreaks in oysters. Generally, viral detection methodology is divided into two phases: (1) Estimating concentration of viruses in large volumes of water and (2) Detection of the concentrated virions, usually by molecular or cell culture methods. There is always a high consumer demand for oysters that are safe from pathogenic bacteria while retaining their quality. Cryogenic freezing provides a multitude of advantages. Combining cryogenic freezing with high barrier packaging could further reduce pathogenic Vibrio's in oyster meat as compared to traditional freezing techniques.

What has been done
Two real-time RT-PCR methods were evaluated for recovery of norovirus in the American Oyster (Crassostrea virginica). Additionally the reduction of Vibrio vulnificus and Vibrio parahaemolyticus also was investigated in gulf oyster meat treated with either liquid nitrogen freezing or blast-freezing.

Results

Low and variable recoveries were found for both real-time RT-PCR methods (4.4 ± 1.7 and 11.3 ± 2.8, P<0.05). The low recovery was probably due to matrix effect of the samples, and indicates the need for improving concentration methodology for detecting low copy numbers of norovirus in oysters. Liquid nitrogen reduced the load of both Vibrios species more than air-blast frozen after 30 days of storage. A liquid nitrogen technique could be used to reduce V. vulnificus and V. parahaemolyticus in oyster meats.

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety
724	Healthy Lifestyle

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 Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

See qualitative impact reports results section.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Horticulture

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
202	Plant Genetic Resources	0%		20%	
204	Plant Product Quality and Utility (Preharvest)	0%		5%	
205	Plant Management Systems	85%		45%	
211	Insects, Mites, and Other Arthropods Affecting Plants	5%		5%	
212	Pathogens and Nematodes Affecting Plants	0%		5%	
213	Weeds Affecting Plants	10%		10%	
601	Economics of Agricultural Production and Farm Management	0%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	13.0	0.0	5.0	0.0
Actual Paid Professional	27.4	0.0	17.5	0.0
Actual Volunteer	42.5	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
499635	0	473185	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
499635	0	473185	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
1759531	0	703824	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Key horticulture program areas addressed issues related to home owners; home, community and school gardens; commercial ornamentals; and turf. The Louisiana Master Gardener program provided volunteers to assist in addressing the growing needs of consumer horticulture audiences.

Teaching methods included extension and research activities such as result demonstrations, volunteer training, field days, studies, individual consultations, group meetings, mass media, publication development and extensive use of Web technology and social media outlets to reach target audiences.

2. Brief description of the target audience

Horticulture professionals, home gardeners, nursery industries, athletic field managers, Louisiana Master Gardener Volunteers, K-12 schools with gardens and related agribusiness clientele.

3. How was eXtension used?

417 questions submitted through eXtension's Ask an Expert system were answered by extension horticulture specialists.

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	143815	11389074	65885	0

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

Patent Applications Submitted

Year:	2012
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	59	36	95

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2012	2639384

Output #2

Output Measure

- Number of Web page visits

Year	Actual
2012	2231541

Output #3

Output Measure

- Number of Louisiana Master Gardeners completing training series

Year	Actual
2012	260

Output #4

Output Measure

- Number of service hours contributed by all Louisiana Master Gardeners

Year	Actual
2012	69912

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percentage of clientele adopting recommended practices
2	Louisiana Master Gardener volunteers supplement the delivery of consumer horticulture program to clients.
3	Percent adoption of recommended practices by commercial horticulture producers and professionals.

Outcome #1

1. Outcome Measures

Percentage of clientele adopting recommended practices

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Louisiana Master Gardener volunteers supplement the delivery of consumer horticulture program to clients.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Louisiana has an estimated 480,802 home vegetable gardens with a projected annual production of $246 million. There also are countless home landscapes requiring maintenance and development that relates to an ever increasing need by consumers for horticulture information, training and timely access to the LSU AgCenter. Information is needed on species and cultivar selection, cultural practices, and weed management. Reduced personnel resources coupled with increased interest in consumer horticulture, home gardening and home grounds has exacerbated the need for trained volunteers to assist in the delivery of quality educational horticulture programs.

What has been done
The Louisiana Master Gardener (LMG) Program involves a network of volunteer support and was developed to strengthen the capacity of the LSU AgCenter's Cooperative Extension Service ability to effectively and efficiently meet the educational needs of home gardeners in Louisiana. Louisiana Master Gardeners complete the standardized LMG training course and are required to donate 40 hours of service the first year and 20 hours each year thereafter to maintain certification. Now in its 19th year, there are 24 LMG training programs in 53 of 64 parishes that

96% of Louisiana's population centers. The LMG Program follows the standard Master Gardener format and participants interact with Habitat for Humanity, garden foundations, parish beautification programs, local farmers' markets, schools and community gardening programs, food banks, professional organizations, local master gardener associations, and Master Gardener programs in other states. In 2012, LMG volunteers: worked with school and 4-H youth, nursing home residents, and home gardeners; answered telephone gardening questions and e-mail communications; provided information at on-site plant health care clinics and gardening information booths; conducted demonstrations, community and school gardening programs, public presentations, gardening seminars, workshops, garden shows, plant sales, educational tours, plant trials and evaluation; and urban tree protection and preservation programs; partnered with civic organizations and municipal entities to complete landscape projects; used media efforts involving newsletters, publications, cable TV and television broadcasts; planned, organized and conducted conference events; and performed on-site consultations.

Results

The increased need for consumer horticulture information and enhanced accessibility to the LSU AgCenter has proven that highly trained LMG volunteers presenting science-based information are recognized in their community as an important and critical resource for gardening education. In 2011, the LMG Program trained 260 new volunteers that increased the active number of volunteers statewide to 2,119. LMG volunteers provided 69,912 hours of their time to Extension educational projects and exposed 5,018,388 residents in Louisiana to consumer horticulture information. This volunteer service, equivalent to 42.5 full-time employees, increased the human capacity of Extension by 20.03%. The economic value of LMG efforts was $1,836,161.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
213	Weeds Affecting Plants

Outcome #3

1. Outcome Measures

Percent adoption of recommended practices by commercial horticulture producers and professionals.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual

2012 0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Vegetable growers, fruit producers, along with turf and ornamental professionals, desire information on production improvements, better maintenance options, pest management and best management practices. Louisiana retail garden centers want to expand ornamental plant promotion and marketing efforts. Timely communication of commercial horticulture happenings and research information is desired.

What has been done
The Louisiana Super Plants promotion program has been implemented by ornamental horticulture professionals. Participants include 150 retail garden centers, 35 landscape horticulturists, and 60 growers. The Field of Excellence Turfgrass Program continued and expanded into new schools. Nursery and turfgrass studies addressed establishment, production and maintenance best management practices. Ornamental meadow plant adaptability work began. Breeding efforts in peaches and figs continued. A nursery production survey was conducted via in-person surveys and group meetings. The Louisiana Vegetable and Fruit Association re-organized. Ornamental horticulture e-news updates continued and a trial garden report e-news update was initiated. Facebook pages increased their focus on postings and outreach.

Results
Eighty per cent of Louisiana Super Plants retail/wholesale/landscape participants indicated the program had a positive effect on business, increasing traffic flow by 60% an increasing sales (10-60%). Nursery grower adoption of various the following recommended practices were: Soil/Growing Media Testing-78.9%, Insect, Disease Management, Scouting-65.8%, Weed Management, Scouting-76.3%, Production of New Plant Species/Varieties-81.6%, Maintain Detailed Crop Production Records-52.6%, Louisiana Super Plants, Marketing Efforts-50%.

Six native perennial bunch grasses and one coastal grass were found to be tolerant to pre-emergent, woody species-selective and sedge-selective herbicides which can control weed pressure in one-year growth and establishment.

Sixteen football fields at high schools in Louisiana have been named "Fields of Excellence".

Primary contacts via Facebook pages numbered over 400,000. E-news updates resulted in 65,550 contacts.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
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
- Appropriations changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

A survey of home vegetable gardeners revealed the following adoption rates for recommended practices: varieties 84%, insect control 83%, disease control 82%, fertilizer (according to soil test) 75%, planting dates 87%, irrigation practices 70%.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Human Nutrition and Food (Adult)

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	0%		30%	
502	New and Improved Food Products	0%		20%	
503	Quality Maintenance in Storing and Marketing Food Products	0%		10%	
701	Nutrient Composition of Food	0%		15%	
702	Requirements and Function of Nutrients and Other Food Components	0%		15%	
703	Nutrition Education and Behavior	100%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	0.0	12.0	0.0
Actual Paid Professional	10.9	0.0	1.1	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
199598	0	55743	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
199598	0	55743	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
702912	0	273656	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Extension activities targeting adult audiences using curricula such as Smart Portions, Smart Choices and Diabetes NEWS were conducted to promote the maintenance of a healthy lifestyle by eating well and being physically active. Research was conducted to study the relationship of food habits and choices of youth and college-aged adults as indicators of health/wellness in later adult life.

2. Brief description of the target audience

Louisiana adults and college-aged students.

3. How was eXtension used?

Resources provided through extension were used to enhance learning.

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	33121	2381965	2783	0

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

Patent Applications Submitted

Year: 2012

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	16	14	30

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2012	569535

Output #2

Output Measure

- Number of Web page visits

Year	Actual
2012	475952

Output #3

Output Measure

- Number of individuals completing Smart Portions classes
  Not reporting on this Output for this Annual Report

Output #4

Output Measure

- Number of individuals completing DEAR classes
  Not reporting on this Output for this Annual Report

Output #5

Output Measure

- Number of families completing Smart Choices classes
  Not reporting on this Output for this Annual Report

Output #6

Output Measure

- Number of Master Nutrition Volunteers certified
  Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Participants are knowledgeable about and adopt healthy lifestyle and weight management practices
2	Identify and/or develop familiar foods which are reformulated to deliver higher fiber and anti-inflammatory ingredients to help control obesity and the negative side effects of obesity while minimizing changes in food choices.
3	Identify and evaluate nutrition and associated lifestyle factors related to improved health and well-being for Louisiana adults.

Outcome #1

1. Outcome Measures

Participants are knowledgeable about and adopt healthy lifestyle and weight management practices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Louisiana residents suffer from chronic illnesses such as heart disease, stroke, cancer and diabetes at rates higher than the national average, while fruit and vegetable intake and physical activity is below the national average. Approximately 7% of adults have been diagnosed with diabetes and one in four adults is obese. Louisiana has the fourth highest cardiovascular death rate in the nation, accounting for almost 40 percent of all deaths in the state. Maintaining a healthy lifestyle by eating well and being physically active can significantly impact these startling statistics

What has been done
Smart Portions, a series of sessions that address nutrition, physical activity and eating habits for a healthy lifestyle was taught in conjunction with local hospitals and as a workplace wellness program. Diabetes NEWS (Nutrition Education Works) classes were provided to Louisiana adults with diabetes or to those who had a family member with diabetes. Classes on Smart Choices, a Community Nutrition Education Program teaching the principles of eating based on the Dietary Guidelines for Americans, as well as money management and food safety were taught in 60 of 64 parishes.

Results
Populations in the first two parishes that offered the Smart Portions program are beginning to see gradual benefits. Together, three women lost more than 300 pounds and have maintained their new weight for almost three years. Several more have lost 25-40 pounds and maintained the loss over time. Participants have formed walking groups and as a result some have completed 5Ks, half and full marathons. Eighty percent are now choosing grilled, broiled or baked items when eating out, with only 6.7% still choosing fried items. Nearly 100% are eating fewer chips and regular ice cream for snacks replacing those items with fruits and vegetables and nuts most of the time. Eighty-eight percent of participants reported consuming more fruits and vegetables, low-fat

dairy products and whole grains. The Smart Portions Facebook group page was a successful means of providing interaction between the agent and the participants, as well as with each other, especially after the classes were over. Participants are encouraged to come back and sit in on classes when in need of a refresher. Five graduates assist as volunteers with program delivery.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #2

1. Outcome Measures

Identify and/or develop familiar foods which are reformulated to deliver higher fiber and anti-inflammatory ingredients to help control obesity and the negative side effects of obesity while minimizing changes in food choices.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Identify and evaluate nutrition and associated lifestyle factors related to improved health and well-being for Louisiana adults.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Obesity in the U.S. has dramatically increased over the past 20 years. In 2010 Louisiana ranked among 12 states that had an adult obesity prevalence of 30% or greater. The health risks associated with obesity, such as cardiovascular disease and diabetes with their associated medical costs and threats to quality of life, underline the need to identify multiple approaches, including dietary approaches, to decrease this obesity trend.

What has been done

Life-long health associated diet-related factors were identified. These include: 1) Dietary habits and patterns of youth and college-aged students; and 2) Dietary fat in an animal model for effect on benefits of dietary prebiotics.

Results

Food habits and choices of youth and college-aged adults are associated with indicators of health/wellness such as obesity/ overweight and protection against macular degeneration. Data on Remote Food Photography demonstrated that it holds promise as an instrument for capturing food intake of youths. The animal model points to dietary fat as a factor that decreases the documented healthy response to dietary prebiotics. These findings underline the importance of intervening early in our efforts to curb overweight and obesity with their associated pathologies and impediments to lifestyle quality.

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
502	New and Improved Food Products
503	Quality Maintenance in Storing and Marketing Food Products
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

See qualitative impact report results section.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Natural Resources & the Environment

☑ Reporting on this Program

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%	
111	Conservation and Efficient Use of Water	10%		5%	
112	Watershed Protection and Management	25%		5%	
123	Management and Sustainability of Forest Resources	25%		20%	
133	Pollution Prevention and Mitigation	0%		5%	
135	Aquatic and Terrestrial Wildlife	20%		20%	
215	Biological Control of Pests Affecting Plants	0%		5%	
402	Engineering Systems and Equipment	0%		5%	
403	Waste Disposal, Recycling, and Reuse	5%		10%	
511	New and Improved Non-Food Products and Processes	0%		5%	
604	Marketing and Distribution Practices	0%		5%	
605	Natural Resource and Environmental Economics	5%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Actual Paid Professional	21.7	0.0	26.1	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
396640	0	853515	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
396640	0	853515	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
1396820	0	14321913	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Louisiana is a state rich in water and other natural resources. Key programs in this area include:

- Master Farmer
- Water resource management
- Nutrient management
- Native fisheries
- Forest management and wood processing
- Animal waste handling
- Wetland plants in fresh water and coastal environments
- Wildlife

Activities include extension outreach using group and individual methods and mass media, research experiments, result demonstrations and field days, incorporating the latest technological advances and use of social media.

2. Brief description of the target audience

Louisiana farmers and livestock producers, coastal managers, wetlands stakeholders, commercial and recreational fishermen, hunters, forest land owners/managers and youth.

3. How was eXtension used?

A member of our natural resources team is a member of the Conservation Professional Training Community in eXtension.

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	103320	2672154	26108	0

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

Patent Applications Submitted

Year:	2012
Actual:	4

Patents listed
Airbone particulate sampler
Floating Pitfall Trap
Yeast expressing Ligand-Lytic Peptides to Kill Protozoa
Inorganic Fiber-Reinforced Polymer Composite Blends as Additives for Oil or Gas Drilling Operations

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	12	103	115

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page visits

Year	Actual
2012	1158205

Output #2

Output Measure

- Number of Web page views

Year	Actual
2012	1416960

Output #3

Output Measure

- Number of farmers certified through the Louisiana Master Farmer program

Year	Actual
2012	33

Output #4

Output Measure

- Number of private pesticide applicators receiving initial certification

Year	Actual
2012	358

Output #5

Output Measure

- Number of commercial pesticide applicators receiving initial certification

Year	Actual
2012	579

Output #6

Output Measure

- Number of private pesticide applicators recertified

Year	Actual
2012	2392

Output #7

Output Measure

- Number of commercial applicators recertified

Year	Actual
2012	3274

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

Outcome #1

1. Outcome Measures

Percentage of livestock owners/producers who adopt or plan to adopt recommended practices for environmental sustainability.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Agricultural activities contribute non-point source pollutants to our waterways. Poultry production is the largest animal agriculture industry in Louisiana; and there are poultry production issues such as mortality management and litter disposal which are of special concern to the environment.

What has been done
The LSU AgCenter has taken the lead in developing Poultry Environmental Best Management Practices (BMPs). The LSU AgCenter has developed a Poultry Environmental BMPs manual, as well as conducted multiple extension educational programs on poultry BMPs for commercial poultry producers over the past few years.

Results
The majority of the poultry survey responders follow extension-recommended best management poultry environmental practices either always or most of the time. Results indicate: 100% store manure properly, use proper mortality management and follow water well protection procedures; 93.3% compost dead birds, apply pesticides properly, practice pesticide safety, apply nutrients by the proper methods; and properly store and dispose of used engine oil, grease, batteries, tires, etc.; 86.7% apply nutrients to the soil according to soil test recommendations, apply nutrients at the proper time(s), store pesticides properly and have a well-organized system of records; 85.7% utilize and maintain fuel storage tanks properly; 80% conduct soil tests every 3 years; and 71.4% conduct litter tests before litter is applied to the land.

4. Associated Knowledge Areas

KA Code	Knowledge Area

102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

Outcome #2

1. Outcome Measures

Percentage of forest landowners who adopt recommended practices for profitability and environmental sustainability.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Forest management effects on hydrology, water, and soil quality, restoration of degraded coastal forests, long-term forest productivity, and suppression of invasive plants and wildlife remain concerns of Louisiana's three billion dollar forest products industry. Lumber mills have closed or operated at reduced capacity from depressed housing markets. Improvements in volume and efficiency of forest products manufacturing, recycling, marketing, and worker safety are needed. Emerging biofuel markets may impact forest management regimes. Natural resource management professionals and loggers request continuing education.

What has been done
Research focused on wetland forests hydrology changes, carbon storage and nutrient cycling of forests, creating new wood products from decommissioned preservative-treated wood, development of short-rotation forest plantations and agroforests for biofuel production, and worksite safety among loggers and arborists. Extension programming focused on oil and gas leasing, streamside management zones, estate planning, forestry tax issues, emerging forestry biofuel markets, herbicide use, GPS use in forest management, logging and burning safety, and forest sustainability.

Results
The direct effects of timber harvesting on water quality led to more intensive monitoring of sediment runoff by governmental agencies and companies. Louisiana's coastal forests benefitted

from improved regeneration strategies. Forest management statewide benefited from data on management effects on soil and water quality, long-term tree growth, invasive species control, and reestablishment of indigenous vegetation. Adoption of log scanning technology developed to improve conversion efficiency is being explored by sawmills. Wood energy research identified landowner attitudes toward biofuels management and potential production methods. Increased knowledge of forest management issues after attending workshops averaged 98% at a value of $3,594 per person, with annual attendance of forestry workshops statewide averaging 575. Average land ownership among these attendees was 540 acres.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources
133	Pollution Prevention and Mitigation
215	Biological Control of Pests Affecting Plants
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
511	New and Improved Non-Food Products and Processes
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics

Outcome #3

1. Outcome Measures

Adoption of recommended practices by certified Louisiana Master Farmers that lead to reduced non-point source pollution in Louisiana waterways

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Over 70 percent of Louisiana's waterways are listed on EPA's 303d list as impaired and not suitable for fishing or swimming. Many of these impairments may be the result of non-point pollution emanating from watershed land use practices such as agriculture, forestry, individual sewage treatment, home landscape, construction practices and other urban and suburban conditions. Many streams continue to show improvement and are moving towards designated use.

What has been done

The LSU AgCenter continued its Master Farmer Program and created a new Master Rice Grower program to educate landowners and encourage adoption of BMPs to mitigate runoff of nutrient and sediment. Currently, over 3200 farmers are enrolled in this program. Water quality education efforts included programs such as Spill Prevention, Control and Countermeasure (SPCC) compliance, to educate dairymen regarding lagoon management; research and extension outreach on lagoon design systems; and education of homeowners and municipalities about runoff management. Research continued on a variety of new BMPs to reduce the impact of sediment, agricultural chemicals, and fertilizers on water quality.

Results

The Louisiana Master Farmer and Rice Grower Program includes eight hours of classes for participants, requires visits to certified model farms that demonstrate BMPs and the development of a farm-specific conservation plan. These components must be completed in order to gain Master Farmer certification from the Louisiana Department of Agriculture and Forestry. This year, 33 farmers were certified, and since its inception 167 farmers have been certified by meeting prescribed criteria to protect soil, water, animals, plants, people and air. This cohort of farmers control or own over one million acres in the state. The program coupled with other applied research and educational programs on animal waste and homeowner issues have resulted in the improvement of many waterways segments in Louisiana.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

V(H). Planned Program (External Factors)

External factors which affected outcomes

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

See qualitative impact report results section of this report.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Resilient Communities and Economies

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
402	Engineering Systems and Equipment	0%		5%	
601	Economics of Agricultural Production and Farm Management	0%		5%	
602	Business Management, Finance, and Taxation	0%		5%	
607	Consumer Economics	0%		10%	
608	Community Resource Planning and Development	20%		0%	
610	Domestic Policy Analysis	0%		15%	
611	Foreign Policy and Programs	0%		5%	
704	Nutrition and Hunger in the Population	0%		5%	
721	Insects and Other Pests Affecting Humans	10%		10%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		10%	
723	Hazards to Human Health and Safety	10%		5%	
801	Individual and Family Resource Management	0%		5%	
802	Human Development and Family Well-Being	0%		5%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	50%		5%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	10%		0%	
903	Communication, Education, and Information Delivery	0%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Extension	Research

Year: 2012	1862	1890	1862	1890
Plan	4.0	0.0	4.0	0.0
Actual Paid Professional	18.0	0.0	6.7	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
328159	0	91717	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
328159	0	91717	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
1155657	0	524351	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Resilient Communities and Economies initiative includes:

- **Economic Development**
  - Agritourism, a program conducted in the north Louisiana Delta region
  - Connect My LA, a program designed to create broadband awareness and increase use in an 18-parish region which includes the Delta region and Florida parishes
- **Disaster Resilience - Place-based**
  - Financial Disaster Resilience for Local Governments
  - Agrosecurity Planning; Hurricane and Nuclear Exercises
- **Disaster Resilience and Sustainability - People-based**
  - Sustainable Housing / LaHouse
  - Disaster Recovery and Mitigation
- **Risk Appreciation (Awareness, Avoidance and Data Enhancement)**
  - Interactive, online hazard maps, building code education
  - Sea Level Rise, Subsidence and Storm Surge
- **The Extension Disaster Education Network (EDEN)**

2. Brief description of the target audience

Target audiences for this initiative include families, elected officials, youth, emergency and floodplain managers, small business owners and governmental and non-governmental agencies.

- Agritourism focuses on agricultural landowners
- Hurricane, storm surge, sea level rise and financial disaster resilience focus on the southern third of the state (hurricane prone region).
- Sustainable housing, flood mitigation, hazard mapping, community resilience and agrosecurity are

statewide.

• Housing and risk awareness programs target building and hazard management industry professionals (and their associations); their clientele and youth.

• Agrosecurity engages producers, processors of food commodities and agribusiness.

• EDEN is a national network. Its primary audience is Extension educators in the 50 states and three territories. It targets consumers through its eXtension communities of practice for disaster issues.

• The flood risk awareness and mitigation programs also have a national audience through service in the Association of State Floodplain Managers and Natural Hazard Mitigation Association.

3. How was eXtension used?

• The Home Energy content in eXtension is used for in-state housing programs.

• Links to eXtension materials are provided to clientele as educational materials in the Agritourism program.

• eXtension is used by EDEN to reach consumers nationally with information on Agrosecurity and Floods (the formal CoP) as well as emerging disaster issues (Avian Influenza, Drought). Louisiana contributes to eXtension in the area of community resilience, providing leadership and input for EDEN's eXtension Flood CoP and the Home Energy CoP.

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	34426	528208	7387	0

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

Patent Applications Submitted

Year:	2012
Actual:	2

Patents listed

Use of Bacillus Thuringiensis as Biological Control Against Subterranean Termites

Wakeboard Release Mechanism

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	19	10	29

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2012	2117991

Output #2

Output Measure

- Number of Web page visits

Year	Actual
2012	1784254

Output #3

Output Measure

- Number of LaHouse Resource Center visitors

Year	Actual
2012	3220

Output #4

Output Measure

- Number of building professionals who participated in sustainable housing educational activities (seminars, tours, technical assistance)

Year	Actual
2012	1890

Output #5

Output Measure

- Number of consumer contacts in LaHouse sustainable housing and landscaping educational activities

Year	Actual
2012	1910

Output #6

Output Measure

- Number of LaHouse Facebook followers (Likes)

Year	Actual

2012	260

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Entrepreneurs and community leaders gain knowledge of sustainable economic development strategies in relationship to operating an e-business and leadership.
2	Outcome: Local governments seek understanding of threats from sea level rise combined with land subsidence. Indicator: Number of parish governments engaged in Sea Level Rise/Subsidence studies and data acquisition
3	Outcome: Youth/Faculty create benchmarks to support continued SLR/Subsidence education. Indicator: Number of school and community resilience program benchmarks established
4	Outcome: Adoption of high performance building and retrofitting practices by consumers. Indicator: Percent of visitors who built, bought, developed plans or remodeled after participation that adopted an average of 13 high-performance building or retrofit practices based on their educational experience.
5	Outcome: Specification or recommendation of high performance building and retrofitting practices by professionals Indicator: Percent of professionals who specified or recommended an average of 12 high performance building or retrofitting practices based on their educational experience
6	Agricultural landowners gain knowledge of sustainable economic development strategies in agritourism.
7	Extension educators use the Extension Disaster Education Network (EDEN) Intranet to enhance disaster education programming.
8	Outcome: Flood map portal service is used routinely by clientele. Indicator: Percent of visits made by return visitors
9	Outcome: Local officials and stakeholders in Louisiana coastal parishes have better understanding of their financial vulnerability to future tropical natural disasters and their resources to become more resilient. Indicator: Number of local officials and stakeholders engaged in the case study workshops
10	Outcome: Communities are better prepared to defend and protect food and agriculture assets. Indicator: Number of communities trained in agricultural disaster preparedness.
11	Outcome: Individuals, families, small businesses and agricultural producers gain knowledge of the threat of disasters, how to prepare themselves and their property to minimize damage, recover from disaster impacts, and rebuild hazard-resistant homes. Indicator: Percent increase in Web visits through electronic billboard advertising.
12	Outcome: Working with voluntary organizations extends reach of Extension research-based information. Indicator: Percent of participants indicating increase in capacity to help disaster victims cope with disaster impacts.

Outcome #1

1. Outcome Measures

Entrepreneurs and community leaders gain knowledge of sustainable economic development strategies in relationship to operating an e-business and leadership.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Access to reliable high-speed internet affects the ability of individuals and businesses in many ways. Gathering information, buying and selling products, banking, paying bills, and job searching make broadband connectivity a necessity for any entity desiring to function efficiently and with the most recent information. Research shows that rural communities, such as in the Louisiana Delta and Florida parishes often lag behind the national average for both broadband accessibility and adoption. More than 1/3 of rural Louisiana residents do not have internet at home and another 10% have only dial-up. The Connect My LA Rural Broadband Initiative was designed to educate residents, business owners and local government representatives and promote the economic and social importance of broadband adoption.

What has been done
Eight modules have been developed for this project: What is Broadband, Introduction to Online Business, Introduction to Selling Online, Introduction to Tablets, Introduction to Twitter, iNutrition-MyPlate, Louisiana Market Maker, and Using Social Media for Business and Personal Life. During this reporting period, 63 workshops (1,062 participants) delivered information in the project area.

Results
The overall evaluation for this project is scheduled for next year to gauge whether learning about broadband technology in this program created a greater demand for access or increased use of available broadband. Following a recent broadband education multi-parish event, 90.5% of participants indicated they had a better understanding of the importance of broadband education and 81% indicated their personal knowledge had been increased. Most participants (90.5%) indicated a greater awareness of the available Web tools and would access one or more of these new tools.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
903	Communication, Education, and Information Delivery

Outcome #2

1. Outcome Measures

Outcome: Local governments seek understanding of threats from sea level rise combined with land subsidence. Indicator: Number of parish governments engaged in Sea Level Rise/Subsidence studies and data acquisition

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Louisiana communities are affected by flooding from rain, rising rivers and hurricane storm surge. Vulnerability increases as sea level rises, the ground subsides and coastal marshes disappear. Models used in managing threats through regulation, insurance and education too often rely on inadequate ground elevation data, particularly in areas where federal levees have subsided and non-federal levees have been built. Locals are aware of the inconsistency in flood impact model outputs and thus question the viability of management systems based on their results.

What has been done
Extension specialists collected survey data for levees in three parishes. The LSU AgCenter also managed a "proof of concept" project that resulted in USGS collecting high resolution LIDAR data for levees using low-level flights. The data was offered to parish managers for future planning and resource evaluation.

Results
The data and new mass-collection systems will have significant impacts on improving storm threat forecasts and pre/post management in coastal communities. These improvements will help build credibility for the tools and information created using the tools, which leads to more informed participation by residents and reduced community vulnerability.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
903	Communication, Education, and Information Delivery

Outcome #3

1. Outcome Measures

Outcome: Youth/Faculty create benchmarks to support continued SLR/Subsidence education.
Indicator: Number of school and community resilience program benchmarks established

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	28

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Half of Vermilion parish flooded during Hurricanes Rita (2005) and Ike (2008) due to storm surge. Most of Vermilion's communities are 25-30 miles inland, but less than 15 feet above sea level. Erosion, subsidence and land loss will lead to higher future flood risk. Understanding these threats and initiating measures to cope with the risks will enable people and communities to be resilient in the aftermath of future storms. Community resilience is ideally introduced to middle and high school students who will be the future planners for living in our coastal communities.

What has been done
The LSU AgCenter, in partnership with Louisiana Sea Grant and local jurisdictions, developed and delivered a resilience program to 1200 students in 23 schools (grades 4-12) in Vermillion Parish. Students learned about storm surge, subsidence, sea level rise and protecting their homes from future storms. They also learned how to use the LSU AgCenter Floodmaps portal to find the ground elevation and flood threat where they live, and installed educational benchmarks in 23 schools and five public facilities around the parish.

Results
The 4-H programs leave behind energetic students and faculty across Vermilion Parish who appreciate the impact that coastal erosion, subsidence and sea level rise will have on their

communities. Elevation benchmarks that students installed at their schools will continue to remind students, faculty and families that the Gulf is only 5 -12 feet away (vertically), not the 25-30 miles measured as horizontal distance from open water. Agents involved received the Excellence in Teamwork Award in 4-H for 2012, thus drawing more attention to the subject matter. Programs have been requested by two additional coastal parishes.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
903	Communication, Education, and Information Delivery

Outcome #4

1. Outcome Measures

Outcome: Adoption of high performance building and retrofitting practices by consumers. Indicator: Percent of visitors who built, bought, developed plans or remodeled after participation that adopted an average of 13 high-performance building or retrofit practices based on their educational experience.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	93

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
High performance, sustainable housing addresses national, state and household needs for increased energy and water efficiency; environmental protection; disaster mitigation; human health; household economic stability, and state and national economic recovery. Progress in this area depends on an educated public.

What has been done
Consumers continue to learn more about sustainable housing and building science through the tours, demonstrations and other educational opportunities conducted by LSU AgCenter faculty and volunteers at the LaHouse Resource Center. Additional LCES outreach included websites

(www.lsuagcenter.com/LaHouse), a Facebook page, publication distribution, mass media releases and consumer healthy home awareness outreach activities. LaHouse faculty worked with a student team to design and build LaHouse Mobile, a traveling exhibit featuring both new construction and home improvement best practices.

Results
The consumer population who renovated existing homes or developed plans for new home construction adopted an average of 13 recommended best practices, including nine (9) energy-saving home improvements. These 2012 consumer audience energy practice adoptions have the potential to save an estimated $1.76 million and 82,792 million BTUs per year, and reduce emissions of 12,782 tons of CO2/year.

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #5

1. Outcome Measures

Outcome: Specification or recommendation of high performance building and retrofitting practices by professionals Indicator: Percent of professionals who specified or recommended an average of 12 high performance building or retrofitting practices based on their educational experience

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
High performance, sustainable housing addresses national, state and household needs for increased energy and water efficiency; environmental protection; disaster mitigation; human health; household economic stability, and state and national economic recovery. In order to respond to consumer demands, building professionals must be knowledgeable on these topics.

What has been done

LCES outreach included 65 educational seminars and events. These seminars and events included technical tours for students and professional groups, technical assistance to individuals, training classes for weatherization providers (WAP), seminars for contractors and other housing professionals, and Healthy Home courses for health and housing professionals.

Results
The housing industry professional audience adopted an average of 12 practices, most commonly energy saving, high-wind design and lead-safe renovation methods. It is projected that the 2012 professional audience energy practices adopted by the builders, developers and designers save an estimated $1.51 million and 62,258 million BTUs per year and reduce annual CO2 emissions by 7875 tons.

Additionally, trained specialists in home weatherization are improving efficiency in hundreds of low-income resident homes; builders and designers learned regionally appropriate green and hazard resistant building best practices that reduce disaster costs and environmental impacts; 90 additional lead-certified contractors protect children and workers from lead poisoning; and, health and housing professionals learned principles of healthy housing to improve environmental health of families and children.

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #6

1. Outcome Measures

Agricultural landowners gain knowledge of sustainable economic development strategies in agritourism.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Agricultural landowners increased interest in agritourism after passage of the 2008 agritourism limited liability legislation. A 40% growth in outdoor related recreation was reported in the 2012 U.S. Fish and Wildlife Survey. The 2007 Agricultural Census reported that 170 Louisiana farms engaged in agritourism enterprises. Agritourism adds to the sustainability of the family farm and rural economies by inclusion in the tourism sector.

What has been done
Five educational workshops addressing revenue potential and best management practices in agritourism have been hosted around the state in partnership with Mississippi State University's Natural Resource Enterprise program and the National Agricultural Law Center to encourage development of agritourism enterprises. The Miss-Lou Rural Tourism Association convenes an annual summit to promote the tourism cluster in parishes along the Louisiana and Mississippi borders. Information on how to start, grow or sustain agritourism ventures has also been delivered by mail, e-mail, website, blog site, Twitter and Facebook. Approximately, $350,000 in grant dollars has been designated to develop an agritourism infrastructure in one of the poorest regions of Louisiana, the Delta.

Results
Participants attending workshops believed they could earn approximately $16,500 in additional income by implementing enterprise development and conservation regimes on personal properties based on information delivered at the workshop. A report issued by the Stennis Institute revealed that the growth rate in the tourism sector of the geographic area defined by the Miss Lou Rural Tourism Association gained over 15% from 2007 until 2010 which was ten percentage points above the national growth rate. Participants (100%) who attended the Miss-Lou Rural Tourism Summit reported that information from the workshop would improve tourism in their respective communities. Development of paddling/canoe trails throughout the Delta region in Louisiana was included in the application materials submitted by Poverty Point State Historic Site which received the United States' nomination for the World Heritage List. Development of four paddling/canoeing trails within the Tensas River National Wildlife Refuge provides more opportunities for visitors and assisted in helping the refuge be recognized at the federal level. Travelers who visit refuges must find lodging and meals outside those federal areas.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development
903	Communication, Education, and Information Delivery

Outcome #7

1. Outcome Measures

Extension educators use the Extension Disaster Education Network (EDEN) Intranet to enhance disaster education programming.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Disaster education, including food and agricultural defense, touches all Extension program areas but is not an identified USDA Extension program. Prior to the emergence of Extension Disaster Education Network (EDEN), states responded in isolation to disasters in their states, duplicating efforts and materials. Disaster education attained a higher profile with the September 11, 2001 terrorist attacks and the subsequent recognition of the vulnerability of the nation's food supply to threats from disease and extreme events, whether of natural or terrorist origin.

What has been done
The LSU AgCenter hosts, develops and maintains a public-facing website authored through a password-protected national authoring content-managed system. Interconnected with the public and public-authoring sites is the EDEN virtual workplace. A primary feature of the "office" space is individual collaboration sites for program area work groups, leadership teams, and special project groups such as Invasive Species and multi-state response to major disasters. The project directors represented EDEN at four national forums: Tri-State Voluntary Organizations Active in Disasters (VOAD), NIFA Public Issues Leadership, American Association of Flood Plain Manager's National Floodproofing Conference and the Natural Hazards Research and Applications Workshops, while participating also in Executive and Standing Committee meetings and conference calls.

Results
With the national EDEN Website, www.EDEN.lsu.edu, linked to dozens of state-Extension Websites, EDEN information easily reaches millions across the U.S. As an example, for the 2012 drought, 29,000 people used information from a single EDEN-based state website over two weeks during July. Public and password-protected sites supported collaborative efforts to explore EDEN's becoming an international network. EDEN enhances disaster education programming by fostering interagency collaboration and partnerships. A partnership with LSU's National Center for Biomedical Research and Training was supported and reflected on the public site. EDEN's Strengthening Community Agrosecurity Preparedness (S-CAP) program, supported by the EDEN website, has been delivered to more than 19 states supporting community leaders who are interested in improving food and agricultural defense. Although EDEN's impact has not been evaluated recently, EDEN is improving and reducing redundancy in Extension's disaster programming nationally.

4. Associated Knowledge Areas

KA Code	Knowledge Area
903	Communication, Education, and Information Delivery

Outcome #8

1. Outcome Measures

Outcome: Flood map portal service is used routinely by clientele. Indicator: Percent of visits made by return visitors

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	61

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Following the 2005 hurricanes, Louisiana adopted a statewide residential building code, which includes design criteria based on flood and wind hazards. The building requirements at a specified geographic location depend on the threat of flood and wind damage as defined in Flood Insurance Rate Maps (FIRMs) and Basic Wind Speed (BWS), from the International Residential Code. Flood maps were already in use, but were being re-evaluated and improved with massive updates. At the same time, the state did not have a simple method for officials and consumers to determine the Basic Wind Speed.

What has been done
As part of its hurricane recovery and rebuilding education program, the LSU AgCenter created an online, interactive mapping system that consumers, local officials and industry professionals can use to determine Basic Wind Speed (for building code), Flood Zone (from the FIRM, including archived, current, preliminary and future map versions), and the elevation at any point within Louisiana. The site is publicized when disasters are pending and when communities are receiving new flood maps.

Results
While jurisdictions must confirm zones and elevations with engineering surveys, the information on the portal provides all users close approximations for site-specific development and property purchases. The site also is used by the public to learn how proposed changes to the FIRMs will affect them personally. Usage patterns show that the Flood Map Portal system is being used for routine flood zone determinations in support of real estate, mortgages, construction and in

monitoring Katrina/Rita recovery and mitigation projects. The savings in time and money have not been estimated, but the value of the system is indicated by the large number of views by return visitors and the speed at which users let us know that something is amiss with the site. The state floodplain coordinator has informed FEMA that floodplain officials value the LSU AgCenter site over the FEMA region site, and that she would like FEMA to continue to support the LSU AgCenter site.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
903	Communication, Education, and Information Delivery

Outcome #9

1. Outcome Measures

Outcome: Local officials and stakeholders in Louisiana coastal parishes have better understanding of their financial vulnerability to future tropical natural disasters and their resources to become more resilient. Indicator: Number of local officials and stakeholders engaged in the case study workshops

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Preparedness for a community's local government for a tropical storm includes more than a debris removal contract and a levee system that can withstand a Category 5 hurricane. Unfortunately, many local governments are not prepared with financial resources required to manage immediate and long-term issues of recovery and reconstruction. Regrettably, this fact did not become evident until many local governments in South Louisiana attempted to recover from Hurricane Gustav in 2008. Cost of debris removal and emergency operations for some parishes (counties) were so high, many local governments did not have the finances to cover a 25 percent

cost-share requirement imposed by the federal government.

What has been done
Researchers and Extension specialists conducted case studies with local parish governments in Louisiana to assess the financial vulnerability of these governments to a future tropical natural disaster. By combining the probability of a future storm occurring in a community with historical costs of cleanup and emergency activities, researchers identified risk-adjusted costs to these governments and recommended alternative policy options to assist these local governments in being financially prepared for the next tropical natural disaster.

Results
An action manual was developed for Extension specialists to deliver this program among vulnerable communities who may be financially unprepared. A USDA Special Needs Grant was sought and received, with endorsement by the Extension Disaster Education Network (EDEN). The Special Needs funds will support training exercises for approximately 100 Extension specialists in the Western, Eastern and Central Gulf of Mexico regions. This information will summarize the local government financial disaster preparation extension program and help officials modify the local government financial tropical storm preparation extension program with respect to other types of natural disasters. It will also be used to develop a self-study course for the generalized local government financial disaster program to be delivered through the EDEN website and eXtension Community of Practice. The impacts are expected to include financial savings to local governments (specifically interest savings) by reducing or eliminating the need for loans to fund natural disaster expenses.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
903	Communication, Education, and Information Delivery

Outcome #10

1. Outcome Measures

Outcome: Communities are better prepared to defend and protect food and agriculture assets.
Indicator: Number of communities trained in agricultural disaster preparedness.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	17

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Louisiana agriculture is vulnerable to threats from floods due to local rain, rising Mississippi, Red and Atchafalaya Rivers, and hurricane storm surge. Louisiana producers, agribusiness and consumers also face the possibility of crop contamination from three nuclear electrical generation plans--two in-state and one in Mississippi, which has 10- and 50-mile protection zones in north Louisiana. Producers also need to know how to protect their crops and agribusiness facilities from agroterrorism. The primary responsibility for planning lies with the emergency management community (state and local), the Louisiana Department of Agriculture and Forestry, the Louisiana Department of Environmental Quality (nuclear) and the owners of the nuclear plants.

What has been done
Louisiana hosted its first EDEN Strengthening Community Agrosecurity Planning workshop. Extension (14 specialists and agents) hosted 25 representatives of Farm Service Agency, public health, parish emergency managers, cattle, seafood, poultry and sugar industries in planning for threats to agriculture, representing nine communities. County agents representing six communities joined representatives of multiple state agencies in the La. Army National Guard's annual hurricane exercise, practicing air reconnaissance of stranded cattle. La. Extension and State Veterinarians conducted a pilot test in two communities of an emergency alert system designed to support rapid communication of plant/animal threats to owners of small farms and backyard flocks, through feed stores.

Results
The most tangible impact of the agrosecurity work is associated with consumer education and participation in the Ingestion Pathway graded exercises for nuclear power plants. Failure of the plants on these exercises can result in suspension of their operating licenses. While planning, preparedness and interagency communication before events happen has value, it is much more difficult to quantify the benefits of preventing contamination or national spread of contamination, or the benefit on knowing you and the guys with the choppers can work together to save livestock during floods. We are working with our national network (EDEN) to develop impact measures for these activities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
723	Hazards to Human Health and Safety
903	Communication, Education, and Information Delivery

Outcome #11

1. Outcome Measures

Outcome: Individuals, families, small businesses and agricultural producers gain knowledge of the threat of disasters, how to prepare themselves and their property to minimize damage, recover from disaster impacts, and rebuild hazard-resistant homes. Indicator: Percent increase in Web visits through electronic billboard advertising.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	22

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Yearly weather events threaten the emotional and economic stability of individuals, families, agricultural producers and communities most vulnerable to flooding (disasters). Resources are needed to help those affected understand and become aware of issues related to flood effects (disasters), best practices when preparing for a flood, recover from the impacts and how best to mitigate future damage.

What has been done
Through print and online resources, news media and social media, impacted individuals, families, and agricultural producers were provided current and research-based information addressing preparation and recovery needs. Electronic Billboard advertising was purchased to increase awareness of the resources.

Results
The LSU AgCenter flood website had 22,000 visits during the spring 2012 flood event (February-April), representing a 56% increase in new visits. Specific disaster related web pages advertised by electronic billboards in four south Louisiana markets yielded a 22% increase of page views within the disaster preparedness channel during the time the billboards were displayed compared to 90 days prior. Sites saw increase activity in the Hurricane Isaac response as well.

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety

903 Communication, Education, and Information Delivery

Outcome #12

1. Outcome Measures

Outcome: Working with voluntary organizations extends reach of Extension research-based information. Indicator: Percent of participants indicating increase in capacity to help disaster victims cope with disaster impacts.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	90

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Yearly weather events threaten the emotional and economic stability of individuals, families, agricultural producers and communities most vulnerable to flooding (disasters). The mental health effects of such events need to be addressed in addition to the physical impacts, and voluntary workers need to be prepared to face these challenges.

What has been done
LSU AgCenter coordinated efforts and extended outreach through Louisiana VOAD. Strategic faculty and nonprofit agencies were trained and provided tools to faculty and community partners in community resilience strategies.

Results
Following a workshop on resilient communities involving representatives from 18 state and nonprofit agencies 90% of participants felt prepared to address post-disaster stress reactions in their community, 20% higher than prior to the training. Further, 90% of participants felt they possessed skills for engaging in supportive communications with people who have experienced a disaster, 10% above the prior to training number.

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
903	Communication, Education, and Information Delivery

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

V(I). Planned Program (Evaluation Studies)

Evaluation Results

The LSU AgCenter's Sustainable Housing program was evaluated using electronic survey method with consumer and professional program participants from 2009-2012.

Consumer participants' survey results revealed:

- 25% adopted 20 recommended sustainable housing practices
- 50% adopted 9 recommended sustainable housing practices
- 40% were willing to invest up to 20% more in verified high-performance home features
- Their self-rated knowledge level increased from an average of 2.3 to 4.0 on a 5-point scale
- They shared what they learned with an average of 24 others

Professional participants' survey results revealed:

- 25% adopted 25 recommended sustainable housing practices
- Two thirds of the builders/designers indicated they would be building high performance new homes
- Their self-rated knowledge level increased from an average of 2.8 to 4.1 on a 5-point scale
- They shared what they learned with an average of 40 others

This evaluation was used to provide a basis for estimating potential impact via modeled annual energy savings, energy cost savings and reduction in pollution emissions. Impact was determined for those consumers who remodeled, bought, built or developed specific plans and professionals who build or design homes. The energy, cost and pollution emissions savings were derived from the Energy Gauge models of the effect of each specific energy-saving improvement compared to a typical existing inefficient benchmark home in Louisiana.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Sustainable Energy

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
131	Alternative Uses of Land	25%		10%	
402	Engineering Systems and Equipment	0%		10%	
403	Waste Disposal, Recycling, and Reuse	50%		10%	
404	Instrumentation and Control Systems	0%		10%	
511	New and Improved Non-Food Products and Processes	0%		50%	
512	Quality Maintenance in Storing and Marketing Non-Food Products	25%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	5.0	0.0
Actual Paid Professional	0.3	0.0	7.9	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
4931	0	104714	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
4931	0	104714	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
17364	0	2018571	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Research and extension efforts regarding biofuel development focused on using Louisiana-produced crops and/or crop residues to produce and utilize fuels such as ethanol, biodiesel, and other next generation alternative fuels.

2. Brief description of the target audience

Agricultural producers in Louisiana and southeast United States; consumers; renewable and natural resource energy production industries, LSU AgCenter faculty

3. How was eXtension used?

Where appropriate, eXtension resources were used to enhance educational experiences, provide a source of reference information for problem-solving and identify research gaps.

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	840	300	211	0

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

Patent Applications Submitted

Year: 2012

Actual: 1

Patents listed

Device for Solid-Liquid Separation

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	0	5	5

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of ag producers providing biomass as feedstock for fuels
  Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Number of workshops conducted
  Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Number of Web page visits

Year	Actual
2012	91872

Output #4

Output Measure

- Number of Web page views

Year	Actual
2012	117597

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Increased knowledge regarding the use of agricultural feedstocks to generate biofuels.
2	Identification of crops and cropping systems capable of producing biomass.
3	Farmers, processors and potential feedstock producers increase their knowledge regarding the use of agricultural feedstocks to generate biofuels.

Outcome #1

1. Outcome Measures

Increased knowledge regarding the use of agricultural feedstocks to generate biofuels.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The technical hurdles that impair biofuel production in Louisiana include identifying feedstocks for year round delivery, creating tools for producers and processors to determine the value of these crops, developing processing technologies for biofuel production and evaluating supplemental high value products to improve the economics of biofuel production. Formation of a regional multidisciplinary consortium of agricultural scientists, biotechnologists, engineers, economists and educators has facilitated the conversion of these regionally appropriate crops into a portfolio of bio-based fuels and chemicals.

What has been done
The Louisiana Institute for Biofuels and Bioprocessing (LIBBi) was created to foster collaboration on the conversion of agricultural feedstock into biofuels and chemicals. Most laboratory and pilot scale research on biofuels and biochemicals has been conducted by the Audubon Sugar Institute (ASI) and the W.A. Callegari Environmental Center. ASI has researched pretreatment options for multiple crop feedstocks. Callegari has developed and offered workshops on the conversion of waste cooking oil into biodiesel. In 2011, the LSU AgCenter was awarded an AFRI-CAP grant that vastly increased the research, education, and extension efforts for bioenergy production.

Results
The joint efforts of LIBBi resulted in the procurement of NIFA AFRI-CAP funding for "A Regional Program for Production of Multiple Agricultural Feedstocks and Processing to Biofuels and Biobased Chemicals". The objectives of the grant are broad in scope. Breeding and crop production research was initiated at north Louisiana research stations to expand the range of energy cane variety selection and low-input sustainable crop production systems. Demonstration areas were planted at these northern locations to augment education efforts to a new clientele base. Modifications to existing pilot biorefinery facilities have been completed. The pilot plant will

process multiple feedstock crops and pursue cutting edge processing technologies to demonstrate conversion of monomeric sugars to butanol, gasoline, and isoprene. The W.A. Callegari Environmental Center continues to offer multiple training sessions per year on the conversion of waste cooking oil to biodiesel production for use by small businesses and farmers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
511	New and Improved Non-Food Products and Processes
512	Quality Maintenance in Storing and Marketing Non-Food Products

Outcome #2

1. Outcome Measures

Identification of crops and cropping systems capable of producing biomass.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The federally mandated pursuit of energy independence calls for the development of sustainable biomass feedstock systems. Louisiana is ideally suited for the production of a diverse range of biomass feedstocks. A competitive advantage for Louisiana is that infrastructures for woody and high biomass crop feedstock industries currently exist. Results of a recent survey indicated state-wide interest in using biomass as an energy source that could have significant economic impact.

What has been done

Biomass research addresses feedstock identification, sustainable production practices, geographic adaptation, integrated pest management and potential biofuel yield. Emphasis is being directed toward energy cane, sweet sorghum, woody biomass, and algae. Partnerships between LSU AgCenter researchers and industries for biofuel development have been strengthened. Personnel involved in the AFRI-CAP project "A Regional Program for Production of Multiple Agricultural Feedstocks and Processing to Biofuels and Biobased Chemicals" completed year 1 research, education, and extension objectives. Several research scientists are involved in DoE Sun Grant projects. Louisiana is a leader in the development of sustainable feedstock systems for biofuel production.

Results

Identification of sustainable production practices for sweet sorghum has been featured in state-wide studies on fertility, varieties and cultural practices and showcased at field days. Partnership with a biorefinery has resulted in the discovery of sweet sorghum planting/harvesting scenarios for providing a sustainable supply of feedstock for biorefinery viability. High-fiber energy cane varieties are being used by the industry to demonstrate cellulosic ethanol production. This energy cane is the primary feedstock being researched in federally funded biofuel projects in Louisiana. Energy cane trials were established in north Louisiana locations to expand the range of biomass production. Analytical efforts established Near infrared spectroscopy (NIR) calibrations for biomass quality analyses. In another project, a novel, multi-stage technique has been developed to harvest microalgae. The relationship between switchgrass cultivation and soil nutrient cycling, carbon emissions and carbon life cycle issues are primary research questions under investigation at research centers on retired agricultural lands.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
511	New and Improved Non-Food Products and Processes
512	Quality Maintenance in Storing and Marketing Non-Food Products

Outcome #3

1. Outcome Measures

Farmers, processors and potential feedstock producers increase their knowledge regarding the use of agricultural feedstocks to generate biofuels.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The concepts for biofuel production in Louisiana are relatively new to most agricultural producers in Louisiana and the surrounding region. In order for this initiative to be successful, growers will need to understand and appreciate not only the importance of biofuel production to the country's future but also their role in providing agricultural feedstock for conversion into biofuels and chemicals.

What has been done
An electronic survey was conducted to establish baseline data regarding the current levels of knowledge, attitudes and opinions of farmers, processors and potential feedstock producers regarding bioenergy production and processing in Louisiana. These data from this survey were combined with that of a similar previous mail-out survey to yielded input from 601 respondents representing 36 parishes and six of the state's key field crops: rice, sugarcane, soybeans, corn, forage, cotton and sweet potatoes. This information was shared at a recent Sustainable Bioproducts Initiative Summit and will be used to further develop educational programs and identify research needs to move this statewide initiative forward.

Results
Key findings of the study include the following: 75% of respondents believe that biomass used for energy production can help supplement the state's energy needs while 67% believed that agricultural biomass is a viable energy alternative to fossil fuels. Slightly over one-half of the respondents recognize that harvesting biomass does not negatively impact wildlife, water quality or soil quality. 86% indicated they would be willing to participate in management activities for biomass production such as short rotation crops and 62% indicated they would be willing to participate in a biomass to bioenergy market. The majority of respondents believe that tax credits, government subsidies, grants, secured loans and other incentives should be provided for this effort. There is a deficit in knowledge regarding actual practices such as labor, equipment and storage required for biomass production. Overall, there appears to be interest in producing feedstock for biofuel generation among Louisiana farmers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
403	Waste Disposal, Recycling, and Reuse
511	New and Improved Non-Food Products and Processes

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

V(I). Planned Program (Evaluation Studies)

Evaluation Results

See qualitative impact report results section in this report.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 11

1. Name of the Planned Program

Youth Development

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
610	Domestic Policy Analysis	0%		60%	
806	Youth Development	100%		40%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	90.0	0.0	0.0	0.0
Actual Paid Professional	122.2	0.0	0.8	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
2199051	0	12316	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
2199051	0	12316	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
7744249	0	174836	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Louisiana 4-H Youth Development Program reached over 240,000 young people through educational efforts in three mission mandate areas: Citizenship, Healthy Living and Science and

Technology. Programs targeted the development of four essential elements in youth--belonging, independence, mastery and generosity.

Approximately 75% of these youth were reached through youth enrichment programs and approximately 18% through organized 4-H in-school clubs. Another 6,781 youth participated in overnight camping opportunities and 5,772 participated in short-term/special interest programs. Other modes of contact were organized 4-H community clubs, day camps and after school programs. Educational outreach was enhanced through the efforts of over 9,000 youth and adult volunteers who contributed over 173,000 hours of volunteer time, valued at approximately $3,287,000.

The focus for this year's Youth Development statewide evaluation was **belonging.** The results of that study are described in the following impact report. Youth development efforts related to nutrition and healthy living are reported in the **Childhood Obesity** section of this report.

2. Brief description of the target audience

Louisiana youth ages 9-19 in 64 parishes as well as youth and adult volunteers.

3. How was eXtension used?

An eXtension Moodle platform was used for the following courses related to the Youth Development program in Louisiana. The number of students enrolled in each course and the number of course views are also provided.

- Louisiana 4-H Going Camping - 94 students enrolled, 3512 views
- Louisiana 4-H OMK Risk Management Training - 78 students enrolled, 511 views
- Louisiana 4-H Risk Management Training - 151 students enrolled, 2497 views
- Louisiana 4-H Volunteer Orientation - 98 students enrolled, 2412 views
- Louisiana 4-H Youth Development and Volunteerism - 28 students enrolled, 146 views
- Louisiana 4-H Youth Energy Program -684 students enrolled, 12,918 views
- LSU AgCenter AgMagic - 69 students, 866 views
- Louisiana 4-H Camp Counselor - 217 students, 7,989 views
- Volunteer Recruitment Basics - 9 students, 270 views
- Volunteer Recognition - 3 students, 38 views
- Strategies for Work and Life Balance - 3 students, 69 views
- National 4-H Headquarters Overnight Chaperone Training - 42 students, 612 views

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	352865	0	841901	2218145

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

Year: 2012

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	15	1	16

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Youth reached

Year	Actual
2012	240000

Output #2

Output Measure

- Number of Web page views

Year	Actual
2012	2615290

Output #3

Output Measure

- Number of Web page visits

Year	Actual
2012	2138186

Output #4

Output Measure

- Number of youth participating in service projects
  Not reporting on this Output for this Annual Report

Output #5

Output Measure

- Number of hours of service performed by youth

Not reporting on this Output for this Annual Report

Output #6

Output Measure

- Number of teens serving on state leadership boards

Not reporting on this Output for this Annual Report

Output #7

Output Measure

- Number of current NIFA 4-H Programs of Distinction designations

Year	Actual
2012	5

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Youth develop and strengthen skills which promote healthy living.
2	Percentage of youth who increase scientific and technology literacy through hands-on scientific learning and discovery.
3	Youth are engaged as contributing citizens within their community.
4	4-H youth experience an increased sense of belonging during their 4-H years.

Outcome #1

1. Outcome Measures

Youth develop and strengthen skills which promote healthy living.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Percentage of youth who increase scientific and technology literacy through hands-on scientific learning and discovery.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Youth are engaged as contributing citizens within their community.

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

4-H youth experience an increased sense of belonging during their 4-H years.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Youth development research indicates that the development of a sense of belonging is connected to psychological well-being. Belonging is characterized by feeling liked, respected, and valued by peers and adults. Youth who feel they belong have a greater sense of independence and are more intrinsically motivated. Youth who lack feelings of relatedness are more prone to feelings of loneliness and emotional distress and may be more susceptible to mental illness. Some research also indicates that youth who are involved in positive experiences where they develop connections with peers and adults have fewer behavior problems in school.

What has been done

The Louisiana 4-H Youth Development program strives to build youths' feelings of belonging through experiential learning opportunities. Getting youth to join a group and stay involved are two of the most critical aspects of building belonging. One of the most common approaches to help youth feel more connected both to peers and adults is the use of games and team-building exercises. These activities help youth get to know each other better. Another common strategy is the use of smaller groups so that youth have a better chance to interact with each other.

Results

A study was conducted to determine the level of belonging experienced by youth in the 4-H program. Data were collected from 7th-12th graders in 2008 (n=790), 2009 (n=1215), and 2010 (n=840). A 21-item questionnaire was used to measure youth's sense of belonging. Paper surveys were distributed to 4-H club members in May of each year. Overall, youths' sense of belonging increased slightly each year of the study (2008 M=3.35; 2009 M=3.50; 2010 M=3.55). The importance of adults to youths' sense of belonging was illustrated throughout all three years of data collection with agreement from 93.6% of survey participants in 2008, 95.9% in 2009, and 97.4% in 2010. Scores for the item 'Adults in this group help me feel safe' showed a 4.6% increase from 2008 (91.6%) to 2009 (96.2%). Peers were also an important aspect of youth feeling like they belonged to the group. Youth feelings of importance to the group increased 4.6% from 2008 (86.4%) to 2009 (91%). Youth also showed a slight increase of 2.6% in their feeling of being supported by their peers from 2009 (89.7%) to 2010 (92.3%).

4. Associated Knowledge Areas

KA Code	Knowledge Area
610	Domestic Policy Analysis
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

See qualitative impact results section of this report.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 12

1. Name of the Planned Program

Climate Change

☐ Reporting on this Program

Reason for not reporting

The work being done related to this area at the LSU AgCenter is primarily a response to climate change and is reported in the program area, Resilient Communities.

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	25.0	0.0	8.0	0.0
Actual Paid Professional	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual Volunteer	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	1890 Matching	1862 Matching	1890 Matching
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	1890 All Other	1862 All Other	1890 All Other
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

Specific subject matter areas and programs included in this initiative are:

- Animal waste handling and utilization
- Water quality
- Environment and natural resources
- Sustainable housing
- Wetland plants
- Louisiana Master Farmer Program

Activities include extension outreach using group and individual methods and mass media, research experiments; result demonstrations; and field days, all incorporating the latest technological advances and use of social media.

2. Brief description of the target audience

Coastal managers, Louisiana wetlands stakeholders, commercial and recreational fishermen, participants in the Louisiana Master Farmer and Master Cattle Producer programs, other agricultural producers, livestock producers and Louisiana homeowners, builders and retrofitters.

3. How was eXtension used?

{No Data Entered}

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2012

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	5	15	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2012	0

Output #2

Output Measure

- Numberof Web page visits

Year	Actual
2012	0

Output #3

Output Measure

- Number of individuals who toured LaHouse

Year	Actual
2012	0

Output #4

Output Measure

- Number of building professionals involved in LaHouse educational events

Year	Actual
2012	0

Output #5

Output Measure

- Number of consumers involved in LaHouse events

Year	Actual
2012	0

Output #6

Output Measure

- Average number of energy-saving measures adopted by consumer audiences

Year	Actual
2012	0

Output #7

Output Measure

- Average number of building practices adopted by building and retrofitting professionals.

Year	Actual
2012	0

Output #8

Output Measure

- Number of farmers certified through the Louisiana Master Farmer program

Year	Actual
2012	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Increased adoption of high performance building and retrofitting practices
2	Reduce the impact of animal waste on the environment
3	Increased adoption of recommended practices to reduce non-point source pollution in Louisiana waterways
4	Increased coordination of research and extension activities to address environment and natural resource concerns across the southeastern U.S.
5	Reduce coastal erosion through the establishment of viable wetland plants.
6	Determine ways to reduce the impact of animal waste on the environment through research discovery and development.

Outcome #1

1. Outcome Measures

Increased adoption of high performance building and retrofitting practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #2

1. Outcome Measures

Reduce the impact of animal waste on the environment

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #3

1. Outcome Measures

Increased adoption of recommended practices to reduce non-point source pollution in Louisiana waterways

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #4

1. Outcome Measures

Increased coordination of research and extension activities to address environment and natural resource concerns across the southeastern U.S.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #5

1. Outcome Measures

Reduce coastal erosion through the establishment of viable wetland plants.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #6

1. Outcome Measures

Determine ways to reduce the impact of animal waste on the environment through research discovery and development.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 13

1. Name of the Planned Program

Forestry and Forest Products

☐ Reporting on this Program

Reason for not reporting

This program has been included in the Natural Resources & Environment section of this report.

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	5.0	0.0	8.0	0.0
Actual Paid Professional	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual Volunteer	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	1890 Matching	1862 Matching	1890 Matching
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	1890 All Other	1862 All Other	1890 All Other
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

Extension outreach efforts including workshops, result demonstrations, and individual consultations as appropriate; research experiments; publication development

2. Brief description of the target audience

Forest landowners, managers and loggers; arborists; participants in Master Logger Program and Master Tree Farmer Program.

3. How was eXtension used?

{No Data Entered}

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2012

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	2	20	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2012	0

Output #2

Output Measure

- Number of Web page visits

Year	Actual
2012	0

Output #3

Output Measure

- Number of Master Tree Farmers and Master Loggers certified

Year	Actual
2012	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percentage of clientele adopting recommended practices

Outcome #1

1. Outcome Measures

Percentage of clientele adopting recommended practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

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
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 14

1. Name of the Planned Program

Family Resource Management

☐ Reporting on this Program

Reason for not reporting

This program has been eliminated due to limited resources and a refocusing of family and consumer sciences programming on nutrition.

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	8.0	0.0	1.0	0.0
Actual Paid Professional	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual Volunteer	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	1890 Matching	1862 Matching	1890 Matching
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	1890 All Other	1862 All Other	1890 All Other
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

Extension outreach using group and individual methods and mass media as appropriate. Web-based technology, individual consultations, collaboration-building and sustainability efforts also utilized. Educational outreach efforts in home-buyer education, financial management, saving, investing,

and taxes.

2. Brief description of the target audience

First time home buyers, high school teachers and students; prisoners/probationers/parolees; extension faculty; financial counselors

3. How was eXtension used?

{No Data Entered}

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2012

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	1	1	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page visits

Year **Actual**

2012	0

Output #2

Output Measure

- Number of Web page views

Year	Actual
2012	0

Output #3

Output Measure

- Number of individuals reached with homebuyer education classes

Year	Actual
2012	0

Output #4

Output Measure

- Percentage of homebuyer education program graduates that became homeowners within 6 months of program completion

Year	Actual
2012	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percentage of participants who gain greater financial independence and literacy by learning and practicing improved management of financial resources.

Outcome #1

1. Outcome Measures

Percentage of participants who gain greater financial independence and literacy by learning and practicing improved management of financial resources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 15

1. Name of the Planned Program

Family Development

☐ Reporting on this Program

Reason for not reporting

This program has been eliminated due to limited resources and a refocusing of family and consumer sciences programming on nutrition.

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	12.0	0.0	1.0	0.0
Actual Paid Professional	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual Volunteer	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	1890 Matching	1862 Matching	1890 Matching
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	1890 All Other	1862 All Other	1890 All Other
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

Appropriate extension and research activities focused on training childcare providers, improving parenting skills and helping families cope with crises. Methods included workshops, classes, and effective use of social media and mass media.

2. Brief description of the target audience

General public including low income families, the elderly, youth, early childhood educators, parents/guardians/caregivers/, employers, business owners and the incarcerated.

Community leaders including educators, elected officials, AgCenter faculty, AgCenter partners, gatekeepers, local government, media representatives, policymakers, and master volunteers.

3. How was eXtension used?

{No Data Entered}

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2012

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	2	2	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web site page views

Year	Actual
2012	0

Output #2

Output Measure

- Number of Web page visits

Year	Actual
2012	0

Output #3

Output Measure

- Number of child care provider certificates issues

Year	Actual
2012	0

Output #4

Output Measure

- Number of child care provider trainings conducted

Year	Actual
2012	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Parents adopt positive parenting practices
2	Early childhood educators provide developmentally appropriate experiences.
3	Increased family resiliency in response to long-term stress and crisis

Outcome #1

1. Outcome Measures

Parents adopt positive parenting practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #2

1. Outcome Measures

Early childhood educators provide developmentally appropriate experiences.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #3

1. Outcome Measures

Increased family resiliency in response to long-term stress and crisis

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}