2014 Louisiana State University Combined Research and Extension Annual Report of Accomplishments and Results

Status: Accepted

Date Accepted: 06/01/2015

I. Report Overview

1. Executive Summary

The LSU Agricultural Center (LSU AgCenter) integrates the functions of 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 some physical facilities with the LSU A&M campus. LSU AgCenter continued during this year to do its part to implement the **One LSU** reorganization plan for the LSU System. As a part of that reorganization plan, the LSU AgCenter and the LSU College of Agriculture are now supervised by the Vice President for Agriculture, Dr. Bill Richardson who also serves as Dean of the College of Agriculture, Director of the Louisiana Cooperative Extension Service and Director of the Louisiana Agricultural Experiment Station.

During this reporting year, additional administrative, personnel and programming changes were made in the LSU AgCenter supporting the LSU System's reorganization plan for the LSU AgCenter to become an integral part of the higher education system with regard to agricultural and extension education. The former Organization Development and Evaluation Unit which has had the responsibility of supporting program planning, evaluation and reporting in the AgCenter has now been expanded to create a new Department of Agricultural and Extension Education and Evaluation, jointly funded by the LSU AgCenter and the College of Agriculture. The new academic department now includes agricultural and extension education and has the responsibility for educating future agriscience teachers and Extension educators. The LSU AgCenter is organized into four (4) main program areas--**Animal Sciences & Natural Resources, Plant and Soil Sciences, Food & Nutrition, and 4-H Youth Development**-- and Associate Vice Chancellors/Program Leaders provide oversight of programmatic efforts for both Extension and Research. This structure allows for coordinated and integrated programming across the organization. As of this date, the LSU AgCenter has faculty and staff located in 14 research and extension departments on campus, 17 research stations and 64 parish offices. Regional Directors in each of the five (5) geographic regions of the state administratively supervise faculty and staff at the agricultural experiment stations and parish extension offices within their regions. Program leaders, regional directors and department heads work together to lead faculty in developing focused programs to address the state's most critical needs.

In FY2014, approximately 15.29% of the LSU AgCenter's overall budget was provided by federal funds; 53.53% by state funds and 31.18% by self-generated funds, grants, contracts and gifts. Limited resources at all levels have made it challenging 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 be critically reviewed to assess impact and relevance to the LSU AgCenter's role, scope and mission. The operational business plan is being continuously revised to include measures to improve program efficiency and effectiveness. Throughout this process, some programs were consolidated or realigned while others were 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 public/private grants and local funds and dependence on trained volunteers have allowed the continued delivery of key programs that are considered to be the highest priority. Sustaining 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.
During FY2014, the LSU AgCenter directed research and extension education programs in 10 priority program areas:

1. **Animal Enterprises (Global Food Security and Hunger)** focuses on the primary livestock and aquaculture industries in the state, including beef, horses and crawfish.
2. **Childhood Obesity (including both youth and adult work)** focuses on the prevention of chronic disease and obesity-related illnesses in Louisiana children and adults;
3. **Field Crops (Global Food Security and Hunger)** focuses on the primary Louisiana field crops and cropping systems including sugarcane, cotton, soybeans, feed grains and rice.
4. **Food Access (Global Food Security and Hunger)** focuses on providing access to healthy and affordable foods to all Louisiana residents and is carried out primarily through the SNAP-Ed programs and an aggressive school and community garden effort;
5. **Food Safety** focuses on fresh produce and seafood safety; consumer and food handler food safety; certification programs and educating growers on the Food Safety Modernization Act;
6. **Horticulture** focuses on consumer horticulture including vegetable, fruit, nut and sweet potato production; consumer horticulture; urban floriculture; and home, school and community gardens and includes such premiere programs as the Louisiana Master Gardener Program and the Louisiana Super Plants Program;
7. **Natural Resources & the Environment (Climate Change)** focuses on the state's forestry industry, watershed ecology, coastal plants, water quality and waste issues and includes the nationally-recognized Louisiana Master Farmer Program; and value-added agricultural and engineering products;
8. **Resilient Communities and Economies** focuses on disaster education and recovery, risk awareness, sustainable housing, and agritourism;
9. **Sustainable Energy** focuses on the production of biomass feedstocks from energy cane and other products for biofuel production; and
10. **Youth Development** focuses on providing positive experiences for youth in the state.

The LSU AgCenter has continued to focus on more effectively evaluating and communicating the impacts of LSU AgCenter program efforts to key stakeholders and engaging 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 with one-fourth of the programs evaluated each year. The impact reports contained within each program priority area of this 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 are annually updated. These two-page documents are a snapshot of the parish or station that 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 were 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. Additionally, more faculty were involved in integrated projects to identify stakeholder needs which allows for 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.

Extension Project 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 was 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. In total, over 21,000 educational group events such as classes, workshops, presentations, clubs and camps were conducted which resulted in over one million direct contacts with youth and nearly one million direct contacts with adults in the 10 program areas.

Local support continues to be a critical element in conducting quality programs at the parish level. In 2004, a goal was set to raise the total amount of local financial salary support contributed locally to 20% 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 goal was achieved in July 2013 and now the amount of local salary and benefits support for local agents and administrative support staff in parish LCES offices is approximately $3.3 million. Additionally, local governments provide office space, equipment, vehicles, and the like valued at approximately $3.5 million. This results in a total contribution of local entities of approximately $6.8 million to support local programing.

Over the past several years, increased emphasis has been placed on accountability and reporting. As a result, significant changes were 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. Many of the metrics contained in this report are obtained from Extension's on-line planning and reporting system, Dynamics. The FTEs reported in the Summary table below represent all professional FTEs regardless of funding source which is different from the actual number from the FY2014 POW.

As a special item of note, the reviewer of this report will see a significant disparity between the number of FTEs reported for the 1862 institution in FY 2013 and planned for FY 2014 for each planned program area. This is due to the fact that an error in projected FTE calculations was discovered this year by the financial office and this error has been corrected in the FY2014 report to more accurately reflect the number of FTEs in each planned program area actually supported by federal dollars. The total amount of FTEs budgeted from all sources for this report period remains the same.

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: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	250.0	0.0	132.0	0.0
Actual	310.8	0.0	120.3	0.0

II. Merit Review Process

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

- Internal University Panel
- External University Panel
- Combined External and Internal University Panel
- Expert Peer Review
- Other (Representative Stakeholders)

2. Brief Explanation

Historically, NIFA program reviews were conducted on a rotational basis across departments and primary program areas. Plans are being made to resume external university panel reviews of programs and departments. 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 were conducted by an internal team of LSU AgCenter administrators, program leaders and various stakeholder groups. These groups continue to evaluate 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 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 that 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 that 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 program teams, such as the Horticulture, Forestry and Nutrition Teams, convene at various times during the year 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
- Develop mechanisms to measure program impact

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

1. Method to identify individuals and groups

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

Brief explanation.

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 members who have had an opportunity to communicate with them through various extension and research efforts or through the direct knowledge of the prospective stakeholder's interest in a particular issue or targeted outcome. 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 educational programs or research. Additionally, input is collected from stakeholders through annual base program evaluations that are conducted across all program areas in a four-year cycle. Focus group meetings, meetings with commodity groups and various data collection processes 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 Staff Hiring Process
- 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 scarcer, the use of stakeholder input is critical in identifying areas where resources can be best leveraged and identifying programs with 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
5219026	0	3952430	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	6334427	0	3129520	0
Actual Matching	6334427	0	3129520	0
Actual All Other	11547901	0	25392587	0
Total Actual Expended	24216755	0	31651627	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous				
Carryover	1332922	0	1068195	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 & 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
135	Aquatic and Terrestrial Wildlife	10%		15%	
216	Integrated Pest Management Systems	0%		2%	
301	Reproductive Performance of Animals	0%		9%	
302	Nutrient Utilization in Animals	10%		10%	
303	Genetic Improvement of Animals	0%		4%	
304	Animal Genome	0%		2%	
305	Animal Physiological Processes	0%		4%	
307	Animal Management Systems	60%		31%	
308	Improved Animal Products (Before Harvest)	0%		5%	
311	Animal Diseases	10%		7%	
313	Internal Parasites in Animals	0%		4%	
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	0%		2%	
601	Economics of Agricultural Production and Farm Management	10%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	20.0	0.0	25.0	0.0
Actual Paid	8.3	0.0	22.4	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**
476706	0	582720	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
476706	0	582720	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
869053	0	4527792	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 375 broiler producers that produce 900 million pounds of broiler meat. Overall, the total livestock industry yielded a gross farm value of $1.94 billion in 2012. Considering value added indexes the total value exceeded $3 billion. Additionally, the Louisiana aquaculture industry had 184,000 acres in production on 2,300 farms with a total value of $530 million in 2012. Much of the work in this area targets outcomes that support NIFA-identified outcomes in the Global Food Security and Hunger program area.

Activities include research and extension programs directed towards animal agriculture and aquaculture. Extension outreach uses group and individual methods; mass media; applied research studies; result demonstrations; and field days, that 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. During this reporting period, 815 classes, workshops and other group events were conducted. Additionally, 42 result demonstrations and 48 grower meetings were conducted.

This year, the **beef program** was the animal enterprise area evaluated in our four-year base program evaluation cycle. The results of the evaluation are included in Outcome Report section of this report

2. Brief description of the target audience

Livestock and poultry producers, horse owners, crawfish farmers and consumer groups with an interest in 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 were 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

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	3986	19702	731	0

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

Patent Applications Submitted

Year: 2014

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	7	38	45

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page visits
  Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Number of Web page views

Year	Actual
2014	1041639

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.
3	Adoption of recommended practices by Louisiana livestock producers

Outcome #1

1. Outcome Measures

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

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

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

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Adoption of recommended practices by Louisiana livestock producers

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Gross farm income from beef cattle increased 18%, from $498.9 million in 2012 to $589.6 million in 2013, significantly more than the average for animal enterprises. Louisiana cow numbers in 2013 totaled 622,040 and producers were reported at 10,910. Those were up from 610,818 cows and 10,875 producers reported in 2012. In 2013, 75,548 yearling cattle (600-800 pounds each) sold for $76.2 million, an increase of 10,000 head and nearly $12 million from 2012 levels. Feedback provided by beef cattle producers from around the state allowed dedicating significant resources to address issues that would improve the reproductive efficiency, pasture management,

supplementation for the stocker enterprise, and Beef Quality Assurance.

What has been done

Annually, the LSU AgCenter organizes field days at 3 beef cattle research stations and 2 others at strategic locations. On average, 120 producers attended them. Pasture walks and on-farm demonstrations were also held. Radio interviews, articles in producers' magazines, and newsletters are methods also used to reach a larger audience. The Louisiana Master Cattleman Program and the Calf to Carcass Program provided producers the opportunity to increase their knowledge about the fundamentals of beef cattle production. State and Parish Cattlemen Associations, Louisiana Forage and Grassland Council, veterinarians and 75 private companies made financial contributions and/or provided support for these programs.

Results

A survey was conducted to evaluate the LSU AgCenter's role in improving the beef cattle industry in Louisiana and 125 surveys were completed. Fifty percent (50%) have participated in the Master Cattle Producer Program and 12% in the Calf-to-Carcass program. In the last four years, 44% of the producers have had an increase of at least 11% in total pounds of cattle marketed. With the exception of risk management strategies and value added marketing strategies, the LSU AgCenter programs influenced at least 60% of the respondents and as much as 80+% on other practices (body condition scoring, mineral program, grazing management, parasite management, and BQA). Fifty-five percent have participated in at least one LSU AgCenter field day, while 23% participated in at least 5 field days. The LSU AgCenter was indicated as the most popular source of information (78%), followed by other websites (76%) and email (51%). These results show that the LSU AgCenter programs have fulfilled their responsibilities of transferring and adapting technologies for Louisiana's beef cattle producers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
307	Animal Management Systems
311	Animal Diseases
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
- Public Policy changes
- Government Regulations

Brief Explanation

V(I). Planned Program (Evaluation Studies)

Evaluation Results

A survey was conducted to clearly identify and evaluate the LSU AgCenter's role in improving the beef cattle industry in Louisiana. A total of 125 surveys were completed. Respondents included 89% of males, 98% were white, 55% were older than 55 years old, 69% of respondents have been in the beef cattle business for more than 15 years and 50% had participated in the Master Cattle Producer Program. Only 12% of those surveyed had participated in the Calf-to-Carcass program. In the last four years, 44% of the producers have increased at least an 11% the total pounds of cattle marketed; however, 53% of the answers indicated that the cost per animal increased per unit of input. When questioned about the extent to which LSU AgCenter educational programs influenced the adoption of different pasture and beef cattle management practices, respondents indicated they were most influenced to adopt Beef Quality Assurance, controlled breeding seasons, and vitamin and mineral supplementation practices.

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
501	New and Improved Food Processing Technologies	0%		25%	
502	New and Improved Food Products	0%		15%	
503	Quality Maintenance in Storing and Marketing Food Products	0%		10%	
701	Nutrient Composition of Food	0%		5%	
702	Requirements and Function of Nutrients and Other Food Components	0%		20%	
703	Nutrition Education and Behavior	50%		15%	
704	Nutrition and Hunger in the Population	0%		5%	
724	Healthy Lifestyle	50%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	15.0	0.0	0.4	0.0
Actual Paid	13.1	0.0	4.1	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**
750729	0	106659	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
750729	0	106659	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
1368608	0	825703	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The childhood obesity issue is addressed through a multi-disciplinary programming approach led by experts in nutrition, youth development, and school and community gardens. Community nutrition programs, SNAP-ED and EFNEP account for a very large portion of the educational programming conducted in this area. Let's Eat for the Health of It is the primary curricula used to educate youth in grades 3rd through 5th and adults about the importance of good nutrition and being physically active. The information in the curricula is scientifically based on the 2010 Dietary Guidelines for Americans.

Smart Bodies is an innovative program of nutrition and physical activities that is integrated into core curriculum academics to promote child wellness. Smart Bodies consists of three components: Body Walk, the OrganWise Guys (OWG), and 2-Step in the Classroom. Body Walk students explore the brain, mouth, stomach, small intestines, heart, lungs, muscles, bones, and skin stopping at learning stations to participate in interactive activities focused on the effects that the food has on each organ. The OWG are fun characters that help children understand physiology and healthy behaviors through books, games, dolls and informational videos. The 2-Step in the Classroom program is a grade-specific educational tool that encourages 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.

The 4-H Healthy Living initiative emphasizes increased fruit and vegetable consumption and increased minutes of physical activity through a variety of delivery modes including the school garden program, the summer camp nutrition educational track, food and fitness boards at the state and local levels, and special interest workshops and day camps.

2. Brief description of the target audience

Efforts in this program area target Louisiana adults, college-aged students and youth including those eligible for SNAP-ED or EFNEP programming.

The target audience for the Smart Bodies program includes public and private elementary schools in Louisiana and their students in grades K-5 with emphasis on limited income youth. The program creates public value by indirectly influencing the schools' administrators, faculty, parents and siblings of participant students.

The target audience for the 4-H Healthy Living program is youth in grades 4-12, parents, school administrators and faculty, 4-H volunteers and Master Gardener volunteers.

3. How was eXtension used?

eXtension materials were used to enhance learning.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	7164	377549	24557	0

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

Patent Applications Submitted

Year: 2014

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	1	29	30

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2014	47579

Output #2

Output Measure

- Number of Web page visits

Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Number of youth who participate in Smart Bodies Program

Year	Actual
2014	41507

Output #4

Output Measure

- Number of elementary schools participating in Smart Bodies program

Year	Actual
2014	98

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Outcome: Louisiana youth and their caregivers adopt healthy lifestyle behaviors which will lead to reduced incidence of childhood obesity. Indicators: Number and percent of participants who increased consumption of fruits and vegetables; number and percent of participants who increase average minutes spent daily in physical activity
2	Adiposity of infants will be influenced by diet of the mother during pregnancy.
3	Participants adopt healthy lifestyle and weight management practices (General nutrition)
4	Identify and test dietary nutrients that may decrease obesity across the lifespan and validate instruments that assess willingness of individuals to consume "healthy foods".
5	Louisiana youth and adults in poverty adopt healthy lifestyle behaviors.

Outcome #1

1. Outcome Measures

Outcome: Louisiana youth and their caregivers adopt healthy lifestyle behaviors which will lead to reduced incidence of childhood obesity. Indicators: Number and percent of participants who increased consumption of fruits and vegetables; number and percent of participants who increase average minutes spent daily in physical activity

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Adiposity of infants will be influenced by diet of the mother during pregnancy.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Participants adopt healthy lifestyle and weight management practices (General nutrition)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	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 11.6% of adults are diabetic and one in three adults is obese. There is an increasing rate of Type 2 diabetes being diagnosed in children and 27.1% of children are overweight or obese. Louisiana has the fifth highest cardiovascular

death rate in the nation, accounting for almost 25% of all deaths in the state. Maintaining a healthy lifestyle by eating well and being physically active across the lifespan from the earliest ages can be effective in reducing these figures.

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. Smart Bodies, a comprehensive nutrition education and physical activity program designed to promote lifelong healthy eating patterns and physically active lifestyles to Louisiana's children and their families, was taught in 98 schools and 14 public events to 41,507 children. Additional participants included 1,864 teachers and 1,793 volunteers.

Results
Clients participating in general nutrition education programs made positive changes in their eating habits such as choosing more fruits and vegetables and participating in physical activity programs. Participants in the Smart Bodies program significantly increased their knowledge about the health benefits of eating fruits and vegetables and their interest in eating them. The Smart Bodies program appeared to equip the students with the knowledge and motivation necessary for them to adopt positive lifestyle behaviors.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #4

1. Outcome Measures

Identify and test dietary nutrients that may decrease obesity across the lifespan and validate instruments that assess willingness of individuals to consume "healthy foods".

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	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 11.6% of adults are diabetic and one in three adults is obese. There is an increasing rate of Type 2 diabetes being diagnosed in children and 27.1% of children are overweight or obese. Louisiana has the fifth highest cardiovascular death rate in the nation, accounting for almost 25% of all deaths in the state. Maintaining a healthy lifestyle by eating well and being physically active across the lifespan from the earliest ages can be effective in reducing these figures.

What has been done
A double-blinded placebo controlled dietary intervention trial in pregnant women is on-going; infants born to these women are being assessed for growth. In other research, surveys are being evaluated for their ability to estimate willingness to consume foods recommended by the Dietary Guidelines for Americans 2010. Animal studies are used to examine dietary effects on the microbiota, which is known to affect health status, including obesity.

Results
Findings suggest that adolescent intrinsic motivation and perceived competence to prepare healthy foods increase as a result of participating in studies to evaluate the impact of nutrition education/culinary skills-building programs.

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

Outcome #5

1. Outcome Measures

Louisiana youth and adults in poverty adopt healthy lifestyle behaviors.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
An annual F as in Fat report (2014) indicated 46.7% of Louisiana adults consumed less than one fruit a day, and 32.5% consumed less than one vegetable per day. In 2012, 34.7% adults in Louisiana were obese, while 69.6% were overweight or obese making Louisiana the highest in the country in the incidence of overweight and obesity (F as in Fat, 2014). According to the CDC (2013) Louisiana ranked 4th in the nation in 2011 in deaths from all cancers. Louisiana has the 4th highest death rate in the nation from heart disease and 9th highest death rate from stroke. Stroke ranked 4th as the cause of death in Louisiana adults.

What has been done
Community nutrition education classes were conducted in 32 SNAP-ED parishes by 27 agents and educators and in 11 EFNEP parishes by 40 agents and educators. The primary curriculum utilized for both youth and adult educational activities is "Let's Eat for the Health of It." This curriculum teaches the principles of eating based on the Dietary Guidelines for Americans, food budgeting and foods safety. SNAP-Ed agents and educators reached 29,664 youth and 12,998 adults through direct education and 69,627 through indirect methods such as mass media including social marketing and social media. Additionally, EFNEP educators reached 1,931 families and 6,687 individuals through community outreach programs and another 20,559 youth through summer camps and in schools. Over 3,000 lessons and/or classes were conducted during this reporting period.

Results
Community nutrition adults in both SNAP-ED and EFNEP either increased fruit, vegetable and dairy intake or their perception of their ability to improve intake. In addition, EFNEP clients improved food resource and food safety practices. EFNEP youth were more likely to choose diets based on the Federal Dietary recommendations, improve food safety practices, and to prepare simple and nutritious foods. EFNEP adults were more likely to plan meals ahead of time, compare prices, use a grocery list, and make healthier food choices after participating in EFNEP education programs. While studies with SNAP-ED youth did not indicate a significant difference in pre- and post-program beliefs, they did show a significant difference in attitudes about consuming more healthy foods. Both community nutrition programs continue to seek new ways to effectively change behavior in an attempt to reduce the obesity numbers among both children and adults.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes
- Economy
- Appropriations changes
- Public Policy changes
- Competing Public priorities

Brief Explanation

V(I). Planned Program (Evaluation Studies)

Evaluation Results

SNAP-ED Evaluation Results

In matched sets of pre-post data from 85 adults, analysis revealed a statistically significant increase in adult participants' belief that they could make healthy fruit and vegetable choices from pretest to posttest. Participants' attitude about healthy food choices also showed a statistically significant improvement.

Analysis revealed a statistically significant increase in participants' belief that physical activity was within their control from pretest to posttest The change in perception of social support (subjective norms) was also statistically significant from pretest to posttest. Participants' attitude about physical activity also showed a statistically significant improvement from pretest to posttest. Participants' knowledge of vegetable servings for adults 50 or younger showed a statistically significant increase in the percentage of correct answers from pretest (11%) to posttest (27%). Knowledge of servings for adults 51 and older showed no change in the percentage of correct answers from pretest (27%) to posttest (27%). Participants' knowledge of recommended daily servings of dairy showed a statistically significant increase in the percentage of correct answers from pretest (10%) to posttest (27%).

Matched sets of 120 youth yielded no significant difference in participants' belief that they could make healthy fruit and vegetable choices from pretest to posttest. However, participants' attitude about healthy food choices showed a statistically significant improvement from pretest to posttest. A close examination of individual responses from youth regarding physical activity intention revealed that youth tended to change stages more slowly than the adults.

EFNEP Evaluation Results

Thirty-three percent (500 of 1515) of participants had a positive improvement on physical activity based on EFNEP lessons. Eighty percent of participants showed improvement in one or more food resource management practice (i.e. plan meals, compare prices, does not run out of food or uses grocery lists). Eighty-six percent of participants showed improvement in one or more nutrition practice (i.e. plans meals, makes healthy food choices, prepares food without adding salt, reads nutrition labels or has children eat breakfast). Fifty-six percent (850 of 1515) of participants showed improvement in one or more food safety practice (i.e. thawing and storing foods correctly). Food Safety Practices of participants improved as indicated by the following:

- 35% always followed the recommended practices of not allowing meat and dairy foods to sit out for more than two hours.
- 47% more often followed the recommended practices of not thawing foods at room temperature.
- 57% of participants showed improvement in one or more food safety practice (i.e. thawing and storing foods correctly), while 22% of participants showed improvement in both food safety practices (i.e. thawing and storing foods correctly).

Studies with children and youth revealed:

- 85% improved their ability to choose foods according to Federal Dietary Recommendations or gained knowledge
- 46% used safe food handling practices more often or gained knowledge

- 47% improved their physical activity practices or gained knowledge
- 50% of children and youth improved their ability to prepare simple, nutritious, affordable food or gained knowledge
- 29% of youth acquire skills to be food secure or gained knowledge

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Field Crops (Global Food Security & 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%		4%	
102	Soil, Plant, Water, Nutrient Relationships	5%		11%	
103	Management of Saline and Sodic Soils and Salinity	0%		2%	
111	Conservation and Efficient Use of Water	0%		7%	
136	Conservation of Biological Diversity	0%		2%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		4%	
202	Plant Genetic Resources	0%		3%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%		5%	
204	Plant Product Quality and Utility (Preharvest)	5%		5%	
205	Plant Management Systems	50%		10%	
206	Basic Plant Biology	0%		1%	
211	Insects, Mites, and Other Arthropods Affecting Plants	10%		8%	
212	Diseases and Nematodes Affecting Plants	5%		18%	
213	Weeds Affecting Plants	5%		8%	
215	Biological Control of Pests Affecting Plants	0%		1%	
216	Integrated Pest Management Systems	10%		7%	
405	Drainage and Irrigation Systems and Facilities	0%		2%	
601	Economics of Agricultural Production and Farm Management	5%		2%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	35.0	0.0	45.0	0.0
Actual Paid	13.5	0.0	38.2	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**
770809	0	993746	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
770809	0	993746	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
1405214	0	7693133	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The LSU AgCenter strives to serve a very diverse food and fiber sector in the state of Louisiana. With the farm gate value of plant-based enterprises in the state exceeding $7.34 billion in 2013, the importance of agriculture as an economic driver in the state is evident. This is particularly evident in regions of the state where production agriculture, and more specifically, row crop agriculture, is the single largest segment of those rural economies. To ensure the economic well-being of the agricultural industry and its ability to continue to be a major contributor to the state's economy, the LSU AgCenter provides a variety of educational opportunities and research based information to row-crop operations to assist them in making better production, environmental, and financial decisions. Additionally, the LSU AgCenter continues to lead the way in developing best management practices to ensure the environmental impact from production agriculture is minimized. Educational opportunities and information in the areas of financial management, risk management, and marketing are also offered.

Educational activities utilize group and individual methods; mass media; research studies; BMP demonstrations; field days and social media tools such as Facebook, blogs, Twitter and YouTube. Decision support tools such as Smart Phone apps and spreadsheets have sparked interest among producers. Each component of the program is designed to provide producers with valuable information to help them make decisions that will result in increased yield, reduced costs, increased revenues, and to mitigate environmental impacts. During this reporting period, 1,198 group events such as classes and workshops were conducted. In addition, 32 grower field days and 85 result field demonstrations were conducted.

This year, the **rice program** was evaluated during our four-year base program evaluation process. The data from that evaluation is included in the Outcomes Section of this report.

2. Brief description of the target audience

Approximately 6,500 growers with slightly over 3 million acres of land in production:

- **Cotton**--287 producers with 124,415 acres in production produced 187.4 million pounds of cotton.
- **Feed grains**--1,977 producers with 754,717 acres in production produced 131.1 million bushels of feed grains, including corn, grain sorghum and oats.
- **Rice**--1,023 producers with 410,902 acres in production produced 3.1 billion pounds of rice.
- **Soybeans**--2,394 producers with 1.10 million acres in production produced 53.8 million bushels of soybeans.
- **Sugarcane**--479 producers with 439,256 acres in production produced 1.6 million tons (3.21 billion pounds) of raw sugar and 96.5 million gallons of molasses.
- **Sweet potatoes**--35 producers with 7,322 acres in production produced 3.5 million bushels of sweet potatoes.
- **Wheat**--506 producers with 232,813 acres in production produced 14.7 million bushels of wheat.

3. How was eXtension used?

The use of eXtension was limited in this program to pest management education for parish ANR agents, ag consultants and crop advisors.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	20359	384642	12567	0

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

Patent Applications Submitted

Year:	2014
Actual:	3

Patents listed
Rice Cultivar Designated CL261
Rice Cultivar Designated CL111
Rice Cultivar Designated CL131

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	28	96	124

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page visits
  Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Number of Web page views

Year	Actual
2014	2969361

Output #3

Output Measure

- Number of field demonstrations

Year	Actual
2014	85

Output #4

Output Measure

- Number of grower field days

Year	Actual
2014	32

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
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Rice is one of the most economically important agricultural crops grown in the state of Louisiana annually. In 2014, rice was grown on approximately 456,047 acres by 1,040 producers. Average yield in 2014 was 7,539 pounds per acre, slightly lower than the record yield of 7,600 pounds per acre set in 2013. The gross farm value of the state's rice crop was $515.7 million for 2014, $21 million (4 percent) more than the previous year. The 2014 rice crop value added estimate of $154.7 million, when combined with farm-gate value, brought the total economic value of rice production in Louisiana to $670.4 million. The higher acreage, combined with high yields, accounted for the significant increase in overall farm-gate value in 2014. Extension education programs for rice focus on providing producers, seedsmen, agricultural consultants, and other industry personnel with research established best management practices. The extension program for rice is an important infrastructure component and educational arm of the Louisiana rice industry.

What has been done
The rice educational program of the LSU AgCenter is comprehensive involving both extension and research personnel on the state and local level. A strong stable working relationship exists between research rice scientists, extension specialists and county agents. Educational methods include, but are not limited to producer meetings, newsletters (at both the state and local level), field result demonstrations, electronic mail, social media, newspaper articles, radio and television interviews, advisory committees, and individual farm visits.

Results
An on-line Qualtrics survey was distributed to Louisiana rice producers by e-mail modified from existing county agent e-mail distribution lists. A total of 90 surveys were completed that were representative of 8.6% of Louisiana's 1040 rice producers. Approximately 75% of respondents

indicated that their yields increased over the last four years. Respondents also indicated that LSU AgCenter extension education programs influenced their selection of rice variety, fertilizer best management practices (BMP), herbicide selection, fungicide selection and use, and insect management practices. Approximately 75% of respondents indicated that they use the LSU AgCenter resources when they seek information to assist them in making decisions regarding their rice farming operation. Responding producers also had a preference for some educational materials (Rice Handbook, RVMT, Field Notes newsletter, and LSU AgCenter website) as compared to others (RiceScout application, DD50% program, and blogs). E-mail was the preferred distributional method of educational information while Twitter, Instagram, and Facebook were used less frequently.

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	Diseases and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems
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 Programmatic Challenges

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

See Results section of qualitative impact statement.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Food Access (Global Food Security & 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
601	Economics of Agricultural Production and Farm Management	0%		32%	
602	Business Management, Finance, and Taxation	0%		8%	
603	Market Economics	0%		5%	
606	International Trade and Development Economics	0%		13%	
609	Economic Theory and Methods	0%		5%	
610	Domestic Policy Analysis	0%		14%	
611	Foreign Policy and Programs	0%		5%	
703	Nutrition Education and Behavior	50%		0%	
704	Nutrition and Hunger in the Population	50%		0%	
901	Program and Project Design, and Statistics	0%		10%	
902	Administration of Projects and Programs	0%		3%	
903	Communication, Education, and Information Delivery	0%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	10.0	0.0	1.0	0.0
Actual Paid	2.5	0.0	5.1	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**
142917	0	132673	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
142917	0	132673	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
260544	0	1027094	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Food accessibility constitutes an important part of the SNAP-Ed program, a primary educational mechanism for nutrition education for vulnerable audiences. The program targets youth and adults that often do not have access to healthy foods on a regular basis. Sixteen professionals and nine paraprofessionals use a systems approach in communities to improve community health practices. Extension outreach utilized various teaching methods including social marketing and social media to make direct and indirect contacts with intended audiences.

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

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	237	2011	683	0

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

Patent Applications Submitted

Year: 2014

Actual: 1

Patents listed
Terpene Glycosides and Their Combinations as Solubilizing Agents

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	0	14	14

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2014	14103

Output #2

Output Measure

- Number of Web page visits
  Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Number of participants in all SNAP-ED programs

Year	Actual
2014	9624

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Limited resource individuals gain access to and consume healthy foods.

Outcome #1

1. Outcome Measures

Limited resource individuals gain access to and consume healthy foods.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Access to low-cost healthy food options remains a major limitation to improving the diet and health of those living in low income communities. A report based on 2011 data in an annual F as in Fat report (2014) indicated 46.7% of Louisiana adults consumed less than one fruit per day, and 32.5% consumed less than one vegetable per day. In 2012, 34.7% adults in Louisiana were obese, while 69.6% were overweight or obese making Louisiana the highest in the country in the incidence of overweight and obesity (F as in Fat, 2014)

What has been done
The Healthy Community Coalition (includes the LSU AgCenter) for Ouachita Parish assessed the need for access to healthful foods for all people in Ouachita Parish and identified means to address the need that was seen on the Southside of Monroe. Likewise in Shreveport where there is an already more mature project in Valencia area. Coalition members transformed lots into community gardens that could supply fruits and vegetables to supplement the work of the food pantries. Donations for the project were made by community members for vegetable seeds, use of a greenhouse, tending the seedlings, etc. Other parishes have followed suit, however the Ouachita Let's Grow Monroe project and Caddo Fit for Kids projects are more documented by their respective communities at this point.

Results
Community members and volunteers worked together to transform the area from a vacant lot into a community garden with 18 raised beds and plans for more in the future. SNAP-Ed garden signs were utilized to identify the vegetables planted and provide nutrition education. Educational programs were conducted for youth at the garden during planting time. The community garden has provided a place of community, education, opportunity, and food for the hungry in Monroe. It is anticipated that results will follow other research indicating adults with a household member

who participated in a community garden consumed fruits and vegetables 1.4 more time per day than non-participants. Community garden participants were also 3.5 times more likely to eat fruits and vegetables at least five times per day. Results show that participation in a community garden may improve fruit and vegetable consumption. Increased consumption of healthful foods may lead to better health outcomes. Other similar programs are being implemented in other parishes. More data will be collected in FY2015.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
606	International Trade and Development Economics
609	Economic Theory and Methods
610	Domestic Policy Analysis
611	Foreign Policy and Programs
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population
901	Program and Project Design, and Statistics
902	Administration of Projects and Programs
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
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

V(I). Planned Program (Evaluation Studies)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

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
502	New and Improved Food Products	0%		17%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	90%		29%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	10%		43%	
723	Hazards to Human Health and Safety	0%		11%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	0.0	3.0	0.0
Actual Paid	0.8	0.0	4.9	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**
47482	0	127470	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
47482	0	127470	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
86561	0	986815	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Produce food safety has emerged as a critical agricultural issue and often presents a significant financial threat to fruits and vegetables producers. Targeting horticultural growers' project activities focused on preparing growers for Food Safety Modernization Act implementation, reducing production, legal and price risks through live workshops, health, hygiene and sanitation training materials, and on-farm visits with extension personnel.

LSU AgCenter food safety efforts include group workshops, classes, and certification programs, as well as individual contacts with clients to answer specific questions and concerns regarding food safety. A variety of educational materials and resources are used to address food safety-related issues. Research focuses on identifying ways to minimize food safety threats related to Louisiana-produced food products.

2. Brief description of the target audience

Growers, processors, 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

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	31	813	39	0

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

Patent Applications Submitted

Year:	2014
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	1	17	18

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of individuals certified through food safety programs

Year	Actual
2014	100

Output #2

Output Measure

- Number of Web page views

Year	Actual
2014	11162

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Increased 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.
3	Increase food safety awareness and market opportunities among Louisiana growers.

Outcome #1

1. Outcome Measures

Increased 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
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Consumer food handling practices and 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. Some commercial processors and food handlers, such as meat and poultry, seafood and canning are required to have certified food safety training. For commercial clients, failure to achieve food safety standards can result in the destruction of product or the shutdown of the facility, both of which are very costly.

What has been done
Three hundred twenty-five extension activities including food safety information regarding thawing and storing foods correctly reached over 15,000 individuals through health fairs, Family Nutrition Nights, and Smart Choices classes.

Additionally, LSU AgCenter faculty conducted 4 nationally accredited HACCP courses (2 seafood, 2 meat and poultry) and 4 Better Process Control (BPCS) courses for processors and assisted FDA in conducting a seafood course for their inspectors. Sixty four individuals participated in these food safety education efforts. Approximately 120 processors were assisted with HACCP plans and with regulatory problems. Faculty also fielded food related safety questions from individuals, some of whom were interested in starting a food business.

Results
In a statewide study of adult participants in the EFNEP program, 57% (850 of 1500) of participants showed improvement in one or more food safety practice (i.e. thawing and storing foods correctly).
Twenty two percent (328 of 1500) of participants showed improvement in both food safety

practices (i.e. thawing and storing foods correctly). Among 12839 children and youth participants 46% use safe food handling practices more often or gain knowledge.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

Outcome #2

1. Outcome Measures

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

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Increase food safety awareness and market opportunities among Louisiana growers.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Fresh produce is one of the leading causes of foodborne illnesses (46%) in the United States (US) and presents a significant financial threat to producers. With the recent enactment of the Food Safety Modernization Act (FSMA), Food and Drug Administration (FDA) will have a legislative mandate to require comprehensive, science-based preventive controls across the food supply.

There are over 1500 fruit producers, over 2000 pecan producers, and 3300 vegetable producers in the state of Louisiana. The value of the 2013 fruit, pecan, and vegetable crops was estimated at over 90 million dollars, with sweet potatoes adding an additional 48 million dollars. With many producers' businesses at stake, the immediate need for educational materials and training assistance is greater now than ever. Current on-farm food safety recommendations vary, and producers struggle to discern which are appropriate for their operation, leaving them overwhelmed when initiating food safety programs.

What has been done
Food safety programs in 2014 were prioritized on two main areas: educating producers about Good Agricultural Practices (GAPs) and FSMA requirements, and providing technical assistance in the understanding and implementation of farm food safety risks. Several training programs were conducted in 2014 around the state promoting producer knowledge of food safety practices with a total participation of more than 500 growers and extension agents.

Results
Growers were provided access to GAPs educational materials, appropriate tools for conducting on-farm food safety risk assessments, and trainings to understand and comply with the proposed produce safety regulations set by FSMA.

About 70% attendees of the FSMA workshop indicated that they substantially increased their knowledge on produce safety rule and 76% indicated their understanding regarding the importance of record keeping increased to a high level. Eighty-nine percent indicated they will improve their food safety practices, 72% indicated considering adoption of enhanced preventive control activities and 100% considered starting record keeping of their farm activities. A total of 80% of the growers indicated that they will share the information to other producers and farm workers and 60% were considering implementation of GAPs in their farm.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

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

Food Safety Practices of EFNEP adult participants improved as indicated by the following:

- 32% (475 of 1482) more often followed the recommended practices of not allowing meat and dairy foods to sit out for more than two hours. Furthermore 35% (514 of 1482) ALWAYS follow the recommended practice.
- 47% (703 of 1500) more often followed the recommended practices of not thawing foods at room temperature. Furthermore 9% (132 of 1500) ALWAYS follow the recommended practice
- 57% (850 of 1500) of participants showed improvement in one or more food safety practice (i.e. thawing and storing foods correctly).
- 22% (328 of 1500) of participants showed improvement in both food safety practices (i.e. thawing and storing foods correctly).

EFNEP Youth 2014:
K-2nd grade:

- 46% (2447 of 5317) improved in their responses to: Circle washing hands

Improvement by Cluster of Behavior - 3rd - 5th Grade:

- 22% (1231 of 5475) improved in their responses to: Pizza out of the refrigerator overnight?
- 17% (929 of 5442) improved in their responses to: Chicken/Rice leftovers in the refrigerator?
- 20% (1072 of 5480) improved in their responses to: Wash hands before food prep?

Improvement by Cluster of Behavior - 6th - 8th Grade:

- 29% (441 of 1544) improved in their responses to: Washed my hands before eating?
- 33% (514 of 1541) improved in their responses to: Wash fruit and vegetables before eating?
- 43% (665 of 1530) improved in their responses to: Foods back in the refrigerator within 2 hours?

Improvement by Cluster of Behavior - 9th - 12th Grade:

- 27% (125 of 468) improved in their responses to: Washed my hands before eating?
- 28% (132 of 467) improved in their responses to: Wash fruits and vegetables before eating?
- 38% (176 of 464) improved in their responses to: Foods back in the refrigerator within 2 hours?
- 26% (119 of 461) improved in their responses to: Check the expiration date

Overall:

- **46% (5874 of 12839) Children and youth use safe food handling practices more often or gain knowledge.**

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%		22%	
204	Plant Product Quality and Utility (Preharvest)	0%		17%	
205	Plant Management Systems	85%		35%	
211	Insects, Mites, and Other Arthropods Affecting Plants	5%		3%	
212	Diseases and Nematodes Affecting Plants	5%		9%	
213	Weeds Affecting Plants	5%		3%	
405	Drainage and Irrigation Systems and Facilities	0%		2%	
601	Economics of Agricultural Production and Farm Management	0%		4%	
604	Marketing and Distribution Practices	0%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	25.0	0.0	15.0	0.0
Actual Paid	10.7	0.0	13.8	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**
612064	0	358997	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
612064	0	358997	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
1115816	0	3326915	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Key horticulture program areas address issues related to commercial vegetable, fruit, pecan and sweet potato production; home grounds; landscaping; home, community and school gardens and commercial ornamentals and turf. The Louisiana Master Gardener program provided trained volunteers to assist in addressing the growing needs of consumer horticulture audiences. Increased emphasis has been placed on school and community gardening efforts. The Louisiana Super Plants Program will continue to be offered to local horticulture professionals.

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; commercial vegetable, fruit, nut and sweet potato producers; home gardeners; nursery industry professionals; athletic field managers; Louisiana Master Gardener Volunteers; K-12 schools with gardens and related agribusiness clientele.

3. How was eXtension used?

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

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	19799	1457920	2454	0

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

Patent Applications Submitted

Year:	2014
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	27	31	58

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2014	2310557

Output #2

Output Measure

- Number of Web page visits

Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Number of Louisiana Master Gardeners completing training series

Year	Actual
2014	285

Output #4

Output Measure

- Number of service hours contributed by all Louisiana Master Gardeners

Year	Actual
2014	75818

Output #5

Output Measure

- Number of contacts made using social media tools
  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	Louisiana Master Gardener volunteers supplement the delivery of consumer horticulture program to clients.
2	Percent adoption of recommended practices by commercial horticulture professionals and producers

Outcome #1

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 Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Louisiana has an estimated 481,000 home vegetable gardens with a projected annual production of $240 million. There also are countless home landscapes requiring maintenance and development that relates to an ever-increasing need by consumers for research-based horticulture information, training and timely access to LSU AgCenter resources. Reduced numbers of personnel 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 highly-trained volunteers 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 20th year, there are 28 LMG training programs in 58 of 64 parishes that represent 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 2014, 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; conducted 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 2014, the LMG Program trained 285 new volunteers which increased the active number of volunteers statewide to 2,662. LMG volunteers provided 75,818 hours of their time to Extension educational projects and made 5,876,151 contacts with residents in Louisiana, exposing them to research-based, consumer horticulture information. This volunteer service, equivalent to 48 full-time employees, increased the human capacity of Extension horticulture professionals by 24% and contributed an economic value of $1,821,248 to the state of Louisiana.

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
213	Weeds Affecting Plants

Outcome #2

1. Outcome Measures

Percent adoption of recommended practices by commercial horticulture professionals and producers

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	78

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The commercial fruit, pecan, sweet potato and vegetable industry in Louisiana is small by comparison to other major production states within the U.S. However, this industry has a large economic impact within Louisiana. The 2013 gross farm values of fruit crops was $28.9 million,

pecans $7.8 million, sweet potatoes $48.9 million and vegetable crops $53.6 million (LSU Ag Center Ag Summary 2013). Research and extension efforts towards improving applied production practices are warranted to help the fresh fruit/ nut and vegetable industry grow as a whole. The target audience for the LSU AgCenter's research and extension efforts primarily consists of the producers of these crops and related industry personnel including but not limited to: fertilizer and chemical reps, irrigation specialists, farmers' market managers, restaurant and grocery produce managers and wholesale brokers/ buyers. There are three grower and LSU AgCenter-driven commodity groups that accommodate this audience (Louisiana Fruit and Vegetable Growers' Association, Louisiana Sweet Potato Association and Louisiana Pecan Growers Association).

What has been done

The LSU AgCenter hosted regularly scheduled grower meetings in 2014. Fruit and vegetable growers attended bi-annual meetings held at Burden Botanical Gardens and Museum in the summer and winter months. The meetings are comprised of production management practice information, a general LFVGA membership meeting, and field tours of fruit and vegetable trials. Pecan growers meet in June with a rotational meeting location between Arkansas, Mississippi and Louisiana plus a spring and fall workshop held at a Louisiana orchard. Topics include grafting, fertility, and pruning. Sweet potato growers meet annually (Jan) for a production and business meeting. The sweet potato field day held annually (Aug) rotates between the sweet potato research station and a grower's field. Partners for these programs include Louisiana Farm Bureau, Louisiana Land Bank, Louisiana Department of Agriculture and Forestry, irrigation supply stores, seed companies, hardware stores, plant nurseries, equipment suppliers, farm chemical companies, sweet potato processors and pecan processors/ bag companies.

Examples of applied research efforts include: vegetable variety trials, herbicide management for broadleaf weed control in watermelon, tomato grafting trials, fertilizer studies on strawberry crops, high tunnel production of herb, strawberry, and tomato crops, cover crop studies to improve soil health, advanced sweet potato lines, soil nutrient studies, insect pest management, weed management, soil moisture effects on root set and sweet potato yield, pecan scorch and pecan scab resistance, monitoring incidence of pecan nutcase bearer, pheromone traps and insecticidal trials to prevent pecan insect damage, variety assessments for nut allergens, nut quality and antioxidants and breeding lines.

Results

In order to evaluate the effectiveness of educational programming and acceptance rate of production practices within the fruit, pecan, sweet potato and vegetable industry, surveys were mailed to producers to evaluate effectiveness in communication of research efforts. The survey was mailed to 450 fruit/vegetable and industry personnel, 78 sweet potato growers/industry personnel, and 35 of pecan growers. Eighty-five (85) surveys were returned equating to a response rate of 15%. Response rate may have been higher had the surveys been passed out at grower meetings and or if the recipients received stamped return address envelopes. Ninety-six percent of the responses were provided by growers and the remaining 3% of responses came from crop consultants, government agency representatives and other sources.

When asked where this group obtains most of their information regarding production practices, 62% indicated their first source was the LSU AgCenter followed by 21% obtaining information from other producers. When asked what printed and online sources these producers use to obtain information on fertilizer and pesticide rates 29% indicated they use the SE Vegetable Crop Handbook, co-published by LSU AgCenter and other southeastern U.S. university personnel. Between 17% and 43% also use LSU AgCenter specific production publications, 29% also use other university websites and books and 43% also consult with industry related educational websites, books and publications. These results indicate the LSU AgCenter publications are as

much in demand as other state and industry materials.

In regards to following specific production information: 60% indicated they usually or always plant the recommended vegetable varieties, 82% usually or always follow weed control recommendations, 80% usually or always follow fertilizer recommendations, 71% usually or always fertilize according to our soil tests, 86% usually or always follow disease control recommendations and 87% usually or always follow insect control recommendations provided by the LSU AgCenter.

The industry continues to change and grow. Over the past four years, 48% of the respondents increased, 11% decreased and 41% stayed the same in terms of total numbers of acreage placed in production. In terms of employing new farm labor, 31% of respondents increased their employees, 67% employed the same number while only 2% reduced the number of employees they hire. Operation expenses increased for 77% of the survey respondents, 19% indicated expenses stayed the same and 4% saw a decrease in production costs. Most of the respondents (56%) indicated that the increase in operational costs was between 10-25% over the past 4 years. Fortunately for the industry, 43% of responses indicated that their income also increased over the past 4 years, 17% reported a decrease in income and 40% income remained the same. Again change in income (decrease or increase) was most predicted at the 10-25% range. Based on survey results the estimated overall adaption rate of LSU AgCenter recommended production practices is 78%.

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	Diseases 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

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 7

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%		1%	
111	Conservation and Efficient Use of Water	5%		2%	
112	Watershed Protection and Management	40%		10%	
123	Management and Sustainability of Forest Resources	20%		17%	
124	Urban Forestry	0%		4%	
125	Agroforestry	0%		3%	
133	Pollution Prevention and Mitigation	10%		8%	
134	Outdoor Recreation	0%		1%	
135	Aquatic and Terrestrial Wildlife	5%		12%	
215	Biological Control of Pests Affecting Plants	0%		2%	
402	Engineering Systems and Equipment	0%		2%	
403	Waste Disposal, Recycling, and Reuse	5%		12%	
405	Drainage and Irrigation Systems and Facilities	0%		2%	
511	New and Improved Non-Food Products and Processes	0%		6%	
512	Quality Maintenance in Storing and Marketing Non-Food Products	0%		4%	
604	Marketing and Distribution Practices	0%		4%	
605	Natural Resource and Environmental Economics	5%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	20.0	0.0	27.0	0.0

Actual Paid	7.8	0.0	23.4	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**
446941	0	608735	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
446941	0	608735	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
814791	0	5313452	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Activities planned include extension outreach using group and individual methods and mass media; social media tools; research experiments; result demonstrations; and field days incorporating the latest technologies. Both commercial and private pesticide applicator certification programs will continue and the Louisiana Master Farmer Program (LMFP) will be expanded with nutrient management as a focus area. Research efforts on the Coastal Plants program will be reduced and coordination of natural resource extension and research activities by the Center for Natural Resource Economics and Policy (CNREP) will continue.

2. Brief description of the target audience

Target audiences include 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?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	8580	246689	1444	0

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

Patent Applications Submitted

Year:	2014
Actual:	1

Patents listed

Carbon-Encased Metal Nanoparticles, Method of Synthesis, and Methods of Use

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	5	91	96

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page visits

  Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Number of Web page views

Year	Actual
2014	1251513

Output #3

Output Measure

- Number of farmers completing the educational phase of the Louisiana Master Farmer program

Year	Actual
2014	450

Output #4

Output Measure

- Number of private pesticide applicators receiving initial certification

Year	Actual

2014	409

Output #5

Output Measure

- Number of commercial pesticide applicators receiving initial certification

Year	Actual
2014	623

Output #6

Output Measure

- Number of private pesticide applicators recertified

Year	Actual
2014	2175

Output #7

Output Measure

- Number of commercial pesticide applicators recertified

Year	Actual
2014	3196

Output #8

Output Measure

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

Output #9

Output Measure

- Number of new Master Farmers certified

Year	Actual
2014	7

Output #10

Output Measure

- Number of pesticide training sessions conducted

Year	Actual
2014	130

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percentage of forest landowners who adopt recommended practices for profitability and environmental sustainability
2	Adoption of recommended practices by farmers that lead to reduced non-point source pollution in Louisiana waterways.
3	Louisiana residents adopt recommended practices that lead to protection and sustainability of the environment.

Outcome #1

1. Outcome Measures

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

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Adoption of recommended practices by 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
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Nutrient loss and erosion continue to challenge the integrity and productivity of our streams, rivers and oceans. Agricultural production is considered to be a primary source resulting dead zones caused by hypoxia. Addressing these issues can be a challenge to producers and other contributing entities because of the need to find solutions that protect water quality and at the same time ensuring the economic viability of agricultural productivity.

What has been done
The LMFP has continued to have increased participation each year with more producer participation in all three Phases of the program. The Phase 1 environmental education provides an awareness of state and federal regulations, water and soil conservation issues, point and nonpoint source pollution, coastal zone issues and conservation planning to document stewardship of the on-farm natural resources. Phase 2 requires a producer to attend a conservation-based field day or workshop where specific best management practices (BMPs) are demonstrated and discussed. This also may include pasture walks, soil quality workshops and other commodity-specific demonstrations that are approved by LMFP faculty and partners. In phase 3 the producer must request a farm-specific Resource Management System (RMS) level

conservation plan on their entire farming operation with NRCS. A resource inventory of the farming operation is done and the RMS plan is written on the acreage within a sub-watershed (12 digit HUC). This process may take a lengthy amount of time depending on acreage, goals of the producer, financial capabilities and overall resource concerns on the selected property. Once the plan is developed and fully implemented, this phase is considered to be complete. The AgCenter confirms that Phase 1 & 2 are completed, NRCS state conservationist confirms the RMS is fully implemented and recommends that the producer is granted certification. Certification is granted by the Commissioner of the LA Department of Agriculture and Forestry allowed by ACT 145 passed by the Louisiana Legislature.

Results
In 2014 over 450 new participants attended phase 1 and 2 resulting in a total of 2,496 farmers completing phase 1 and 2,239 completing phase 2 of the LMFP to date. Participants in the LMFP have over 1.7 million acres that currently have some implemented BMPs and are participating in current Farm Bill conservation programs. Currently there are 206 Certified LMFs that have completed all program requirements and are "presumed" to be in compliance with Louisiana's soil and water conservation requirements.

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

Outcome #3

1. Outcome Measures

Louisiana residents adopt recommended practices that lead to protection and sustainability of the environment.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Gulf hypoxic-zone is significantly influenced by both coastal waterways and inland streams. Hypoxia reduction is widely recognized as a significant issue for economic and environmental sustainability. Although Louisiana's contribution to GOM hypoxia may be considered relatively small when compared to other locations in the Mississippi Valley, Louisiana does contribute through its smaller coastal waterways. The AgCenter recognizes that in order for educational efforts to be successful in mitigating water quality impairments in estuarine and near-coastal water bodies, and to address the Gulf Hypoxia issue, efforts must address the sources of these pollutants regardless of their geographical location in the state. For that reason much of the work has been directed towards non-traditional audiences such as youth, homeowners, and other land uses. Additionally, 2014 saw an increase in regulatory concern regarding dairy lagoon wastewater.

What has been done

To improve citizen and youth pro-action and awareness about these important dynamics, the AgCenter developed several programs to educate and encourage land-owners about the impacts of runoff from various sources. Sources include marinas activities, urban/suburban lawn care, individualized sewage treatment, management of aquaculture ponds, effects of oil and fuel spills, and diminishing healthy coastal ecosystems. Youth in various coastal communities are often engaged as a part of these various outreach strategies. Much of the agricultural sector is targeted by the AgCenter's Master Farmer Program which is reported in a separate state-defined program outcome in this Planned Program Area. The coastal zone non-agricultural sector, which is the focus of this assessment, has significant activities and land-use that influence ecosystem health. Response to the BP oil spill is also a continuing part of efforts.

Results

By following research-based extension recommendations, animal producers managed wastewater lagoons, stored manure and litter according to recommendations, and reestablished riparian zones. Water quality programs educated students, teachers, and volunteers. Teacher workshops and field trips have provided classroom teachers with knowledge and techniques that significantly enhance their teaching on water quality, and Louisiana ecosystem topics. Marina managers have used extension recommendations to prevent fuel and oil spills in coastal Louisiana. Trained teachers have reached about 20,000 students in the classroom. Local parish governments have restored water quality by adopting recommendations based on on-site research to improve hydrology and recreational opportunities. These efforts have resulted in improved water quality and enhanced recreation. Educational efforts with suburban audiences have led to another stream (Bogue Falaya River) being delisted from the impaired stream list by state officials.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing 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 # 8

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%		12%	
601	Economics of Agricultural Production and Farm Management	0%		6%	
602	Business Management, Finance, and Taxation	0%		14%	
607	Consumer Economics	0%		6%	
608	Community Resource Planning and Development	20%		0%	
721	Insects and Other Pests Affecting Humans	10%		18%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		4%	
723	Hazards to Human Health and Safety	10%		8%	
801	Individual and Family Resource Management	0%		7%	
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%		5%	
805	Community Institutions and Social Services	0%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	10.0	0.0	5.6	0.0
Actual Paid	5.6	0.0	2.5	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**
323159	0	65036	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
323159	0	65036	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
589130	0	503477	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Sustainability and growth of communities, economic prosperity and protection of property is important to the state. Louisiana is a state that has been impacted by numerous natural disasters. Disaster planning for individuals and communities addresses the need and process for valuation and documentation of physical resources prior to a disaster event and methods for using those resources in recovery efforts.

Primary focus areas for the Resilient Communities and Economies initiative include:

Economic Development--Agritourism, ecotourism, nature-based tourism, a program conducted state-wide to assist landowners in diversifying their income and complying with the 2008 limited liability agritourism law and Connect My LA, a program designed to create broadband awareness and increase use in an 18-parish region that includes the Delta and Florida parishes.

Disaster Resilience - Place-based--Financial Disaster Resilience for Local Governments and agrosecurity planning; hurricane and nuclear exercises. These programs raise capacity at the community level.

Disaster Resilience and Sustainability - People-based--Sustainable Housing / LaHouse Resource Center / Resilient Housing; disaster planning, recovery and mitigation; building code education; flood insurance and floodplain management. These programs raise capacity at the individual, family and professional levels. This area includes a new program to engage youth in making their property and communities more resilient to natural hazards.

Risk Appreciation (Awareness, Avoidance and Data Enhancement)--Interactive, online hazard maps, levee protection; sea level rise, subsidence and storm surge.

The Extension Disaster Education Network (EDEN)--Leadership and web hosting for 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 in the Delta and coastal areas. Landowners participating in nature-based or ecotourism are included in the agritourism category.
• Connect My LA focuses on individuals, communities and small businesses in an 18-parish area that includes the Delta Region and the Florida Parishes.
• 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, three territories and Bicol University (Philippines). EDEN targets consumers through its eXtension communities of practice for disaster issues.
• The flood risk awareness and mitigation programs have additional national audiences through service in the Association of State Floodplain Managers and Natural Hazard Mitigation Association (NHMA).

3. How was eXtension used?

• The Home Energy content in eXtension is used for in-state housing program
• 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 Community of Practice (CoP), as well as emerging disaster issues (Avian Influenza, Drought).
• Louisiana contributed to eXtension in the areas of community and housing resilience, and provides leadership and input for EDEN's eXtension Flood CoP and the Home Energy CoP.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1099	22379	207	0

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

Patent Applications Submitted

Year:	2014
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	1	7	8

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2014	1794795

Output #2

Output Measure

- Number of Web page visits
  Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Number of LaHouse Resource Center visitors

Year	Actual
2014	2468

Output #4

Output Measure

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

Year	Actual
2014	1445

Output #5

Output Measure

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

Year	Actual
2014	1886

Output #6

Output Measure

- Number of LaHouse Facebook followers (Likes)

Year	Actual
2014	512

Output #7

Output Measure

- Views of Louisiana flood maps on the LSU AgCenter portal

Year	Actual
2014	275891

Output #8

Output Measure

- Number of agro- and eco-tourism workshop participant days

Year	Actual
2014	102

Output #9

Output Measure

- Number of Financial Disaster Resiliency local government presentation participants

Year	Actual
2014	50

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Individuals, entrepreneurs and community leaders gain knowledge of sustainable strategies for economic growth.
2	Local governments seek increased understanding of and plan to address threats from sea level rise and land subsidence.
3	Consumer adoption of high performance building and retrofitting practices
4	Housing professionals specify or recommend high performance building and retrofitting practices
5	Agricultural landowners gain knowledge of sustainable economic development strategies in agritourism.
6	Extension educators use the national Extension Disaster Education Network (EDEN) Internet and Intranet to enhance Extension's disaster education programming
7	Increased use of flood map portal service by clientele
8	Local officials and stakeholders in Louisiana coastal parishes have better understanding of their financial vulnerability to future disasters and their resources to become more resilient.
9	Communities are better prepared to defend and protect food and agriculture assets.
10	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.
11	Working with voluntary organizations extends outreach of research-based disaster education information
12	Youth are more engaged in community development

Outcome #1

1. Outcome Measures

Individuals, entrepreneurs and community leaders gain knowledge of sustainable strategies for economic growth.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Currently, only about two out of three Louisiana households have broadband internet technology (66.3%) and just 35 percent of Louisiana's small businesses have websites or web storefronts. While many take for granted access or ability to use broadband technology, these low rates of use and adoption indicate that our residents and business owners are at risk for falling behind. According to the Louisiana Broadband Initiative (2013), the digital divide not only concerns access to technology, but also addresses residents not having the ability to use technology effectively. Over half (52 percent) of rural Louisiana citizens reported having little knowledge on how to use the internet. Rural Louisiana non-broadband technology users reported that they would envision using the internet to find information on health (48 percent) with 43 percent citing gaining local news and participating in on-line educational opportunities as major reasons why they would adopt broadband technology. This information exhibits an interesting variance between high speed internet users who utilize the internet for social activity and commercial purchases whereas non-subscribers envision using the technology to gain information. In areas where access is available, rural Louisiana non-users are more often found to be living at or below the poverty level, be less educated and consequently less inclined to purchase or use broadband technology. Often the skill level in these rural parishes among the non-users is found to lag behind more urban and suburban communities. The result is a digital divide between Louisiana residents that separates residents and areas based on digital access and use (Louisiana Broadband Initiative, 2013).

What has been done
The Connect My Louisiana (CML) team set forth to help close this digital divide between urban/suburban and rural residents. The objective of the program is to provide consumers, business owners, local government representatives, public and private organizations and residents with access to educational resources that promote greater broadband internet adoption.

The team developed an educational technology curriculum that currently consists of 10 modules. The module topics are: (1) What is Broadband; (2) Introduction to Online Business; (3) iNutrition-Provides information on the USDA's dietary guidelines using the "MyPlate" icon; (4) Introduction to Tablets; (5) Introduction to Selling Online (6) Introduction to Twitter; (7) Louisiana Market Maker-A marketing tool for connecting agricultural producers with potential buyers; (8) Using Social Media; (9) Introduction to Social Media Videos; and (10) Introduction to 3D Printing. Classes were taught on the above topics in all of the identified 18 CML parishes. With many residents citing a lack of computer access as a reason as to why they were reluctant to learn about or adopt technology the team set forth to add more local access points. The team installed self-contained kiosks (state of the art all-in-one touch screen computers) at over 20 sites in Louisiana. The kiosks provide the opportunity for residents who are not connected to broadband technology to visit their local LSU AgCenter office to be connected to the internet. In an effort to reach non-traditional participants the team added 3D printers at parish offices in Washington, Catahoula and St. Helena parishes. The 3D printers offer a unique opportunity for residents to visit a local extension office and make parts, prototypes of objects, jewelry, architectural models, hobby pieces and other custom objects.

Results

When the program first started in 2011, 418 participants completed educational modules. To date the program has grown and has reached over 3,500 residents. In addition to traditional sessions, the broadband coordinators have also worked with participants in one-on-one sessions. Online self-paced modules are also being made available for participants for both informational and reinforcement purposes. A follow-up survey of participants revealed that 81.8 percent found the information to be "very informative". With 72.7% stating they are interested in attending other educational sessions offered by Connect My Louisiana. Over sixty percent (63.6%) "strongly agree" that after attending sessions they have a better understanding of available service options, what to consider when choosing plans and are now aware of tools to monitor, manage and reduce network usage. The kiosks have helped residents who previously did not have internet or computer access to be able to: learn or advance computer skills, navigate the web, access resource information, learn job readiness computer skills, use self-paced modules and work with the Connect My Louisiana team to establish online business storefronts. Additionally, the kiosk are being used in 4-H youth and extension programs, as extension teaching tools and residents are viewing LSU AgCenter publications at the kiosk.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities

Outcome #2

1. Outcome Measures

Local governments seek increased understanding of and plan to address threats from sea level rise and land subsidence.

Not Reporting on this Outcome Measure

Outcome #3

1. **Outcome Measures**

Consumer adoption of high performance building and retrofitting practices

Not Reporting on this Outcome Measure

Outcome #4

1. **Outcome Measures**

Housing professionals specify or recommend high performance building and retrofitting practices

Not Reporting on this Outcome Measure

Outcome #5

1. **Outcome Measures**

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

2. **Associated Institution Types**

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
In Louisiana, outdoor recreation is included in the agritourism limited liability law passed in 2008. All of our agricultural lands are not in cultivation or used for other forms of agriculture and this under used acreage is perfect way to incorporate agritourism.

These lands are suitable for outdoor sports: hunting, fishing, kayaking, canoeing, hiking, birding and biking. According to the latest data recorded in 2011 by the Outdoor Industry Association, $646 billion is spent each year by Americans on outdoor recreation. Expenditures include gear,

vehicles, trips, travel-related expenses and more. In turn this creates jobs, supports our communities, generates tax revenue and helps drive the economy. In Louisiana alone, outdoor recreation generates $15.1 billion in consumer spending; $4.6 billion in wages and salaries; $1.1 billion in state and local tax revenue; and provides 146,000 direct Louisiana jobs.

What has been done
To educate agricultural landowners about the opportunities associated with outdoor recreation and agritourism in general, three workshops entitled: Coastal Eco/Agritourism Workshop, Bayou Bartholomew Outdoor Business Owner Workshop and Hammond Agritourism Workshop were conducted throughout the state. Specialist spent 140 days planning and executing the three workshops.

Mississippi State University, Louisiana Sea Grant and the LSU AgCenter partnered to present the workshop in Lake Charles. In Oak Grove, Mississippi State University and Arkansas State University partnered with the LSU AgCenter. Finally, in Hammond the Tangipahoa Master Gardeners partnered with the LSU AgCenter for that workshop.

Results
Approximately 102 private landowners, elected officials, state and federal agency staff attended one of the three workshops. Of that number, 70% completed evaluations. Of those returning evaluations 52 of the 102 participants were private landowners. As the result of attending the workshops 72% of participants intend to change their land-use practices using knowledge gained at the event to open their lands to agritourism related enterprises.

On average, participants believed that they would earn approximately $19,337 in additional income per individual from other enterprises by implementing agritourism venues, conservation practices and enterprise development on their properties based on information gained at the workshop. This expectation resulted in an approximate aggregate cash flow of $737,002.

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

Outcome #6

1. Outcome Measures

Extension educators use the national Extension Disaster Education Network (EDEN) Internet and Intranet to enhance Extension's disaster education programming

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Increased use of flood map portal service by clientele

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The 2005 hurricanes prompted the state--encouraged by property insurers--to adopt a statewide residential building code that ties building and remodeling to flood- and wind-resistance criteria. All 400 jurisdictions are subject to the building code; 338 have their fortunes tied to Flood Insurance Rate Maps (FIRMs) of the National Flood Insurance Program (NFIP). The state's better-building initiative collided with FEMA's requirement for levees to be re-certified before being recognized on updated FIRMs. The fallout from failure to validate levees, coupled with Congressional moves to eliminate long-standing flood insurance premium subsidies, left a third of Louisiana's parishes having revised FIRMs they can't adopt, and people without reasonable access to their true flood risk. Being mapped "in the flood zone" has enormous impact on property value, home equity, building, loans and insurance. Consumers desperately need access to current and future FIRMs when making property investment decisions.

What has been done
The LSU AgCenter Flood Maps portal puts FIRMs for the entire state on the open Internet and provides point-specific risk information in the context of insurance and building permit requirements. It is a focal point for outreach activities related to risk awareness and hazard mitigation and gives property owners, investors, lenders, builders and building officials same-page access to the flood and wind risk-reducing design standards of building codes.

The Portal is a web-based tool used for 12,000 mapping sessions a month, 85% of those during the work week. It is used to support presentations, individual consultation and Flood Map Open Houses offered by newly mapped communities. It became mobile-friendly in 2013 and provides local contacts, ground elevation, and community-specific notes relevant to a user's point of interest. Users locate property by reference to road maps and aerial photographs or by searching for an address or geographic coordinates. The system reads FEMA's digital maps. It is accessed

through the LSU AgCenter "Rebuilding" website "Getting a Permit" section. Educational outreach includes providing staffed computer stations at which individual property owners are shown how to use the portal and receive a printout of the flood map and related risk information at their point of interest.

Results
Thirty-nine of the state's 312 floodplain officials completed the portal-based feedback survey, solicited by the state NFIP coordinator. Users rated the service 8.7/10 for technical accuracy and 9.2/10 for ease of use. Seventy-two percent said they use the site several times a week, with half of those using it several times a day. When asked about referring others to the site, 69% said they "do it all the time". Predominant uses were "As a tool in doing my job" (85%) and "To support business decision making" (33%). One respondent's comment reflects a common theme: "This is a very helpful tool we use daily to give to our permit applicants showing them the information for their particular location so they can understand." Another said, "Being able to click on a point and have all of the needed information makes our job much easier when we have a resident in front of us."

Survey results support less formal statistical measures of steadily growing use (275,891 page views vs 228,816 in FFY2013) and high percentage of return visitors (61%). Usage patterns and correspondence suggest that the Portal is being used routinely for flood zone determinations in support of real estate activities, mortgages, and regulating construction, and in monitoring federally funded mitigation projects from the 2005 and 2008 hurricanes. A state disaster recovery officer reported, "We here at Road Home (and other state-run programs) have been using the flood maps on your site for years to assist us in determining eligibility for Elevation Programs, as well as compliance with those programs. The maps are very user friendly and have helped us greatly. It's nearly impossible to look up all the different maps [we need] at the FEMA Map Center". And another, "Just having the maps online saves many hours weekly not having to dig out paper maps."

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

Outcome #8

1. Outcome Measures

Local officials and stakeholders in Louisiana coastal parishes have better understanding of their financial vulnerability to future disasters and their resources to become more resilient.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
In the wake of the 2005 tropical storm season, it became immediately apparent that most communities were woefully unprepared for the overwhelming devastation that can occur during a natural disaster. Recovery efforts for most communities were lengthy and expensive. One costly impact was the amount and extent of debris caused by wind and flooding. Initial costs were incurred to remove debris from roadways for rescue operations; as a community moves toward getting citizens back into homes and opening businesses a second wave of debris was generated. Specific costs associated with debris include: safe handling and removal, storage, and disposal. Although the federal government has provisions for reimbursing disaster communities for some of the recovery costs, most governments are not financially prepared to shoulder the huge burden of these kinds of expenses. Many governments waited years to receive federal government reimbursements resulting in strains on local governmental budgets. In subsequent years, a stronger effort toward mitigation of potential disaster impacts and securing sound financial resiliency for communities was emphasized by all levels of government.

What has been done
The LSU AgCenter developed a financial resiliency decision making tool, and a program to facilitate use of the tool, for local governments to develop strategies for remaining solvent during disaster events. The first program began as a demonstration project in 2009, "Financial Decision Tool for Local Governments Responding to Natural Disasters". The program has evolved into a training opportunity for a range of governmental entities (municipalities, parishes/counties, and school districts) to facilitate policy development locally, as well as regionally. In 2013, two webinars were developed and financed for national distribution through the National Association of Development Organizations (NADO), the U.S. Department of Housing and Urban Development (HUD), the Rural Policy Research Institute (RUPRI), the National Institutes of Food and Agriculture (NIFA), and MS-AL and LA Sea Grant programs. A series of Train-the-Trainer workshops was developed, in 2014, to introduce the program to finance and emergency preparedness officials, and others in local government, and extension agents coast-wide. Workshops were conducted in Orange Beach, Alabama (April 9, 2014) in conjunction with the Climate Community of Practice Workshop, and in Lake Charles, Louisiana (May 13, 2014). The success of the program has inspired collaboration by the Louisiana Governor's Office of Homeland Security and Emergency Preparedness.

Results

LSU AgCenter programs, partnerships and education efforts have improved financial awareness in three local governments and trained over 100 facilitators, in Louisiana, Mississippi, and Alabama, to use the Financial Decision Tool. Of the two communities that directly participated in the program, Calcasieu Parish did not take advantage of the strategies realized through the process. It was later learned that the Police Jury has a partnership with local gaming entities to fill any disaster related gaps in local government needs. Otherwise, local governmental participants gained valuable knowledge about strategies to improve community resilience. Most participants said they would strive for implementation of strategies, through proper channels, to improve financial resiliency within local government.

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

Outcome #9

1. Outcome Measures

Communities are better prepared to defend and protect food and agriculture assets.

Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

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.

Not Reporting on this Outcome Measure

Outcome #11

1. Outcome Measures

Working with voluntary organizations extends outreach of research-based disaster education information

Not Reporting on this Outcome Measure

Outcome #12

1. Outcome Measures

Youth are more engaged in community development

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Louisiana coastal marshland continues to erode due to natural and human forces. The Gulf of Mexico edges closer to homes and communities. Over the past 50 years, sea level along the Louisiana coast has risen approximately 1.5 feet and in many areas the land subsides. With flooding and destruction from Hurricanes Katrina and Rita in 2005, the state and nation were reminded of the existing vulnerabilities of our communities and the high probability of reoccurrences of damage to homes, businesses and public facilities if proactive measures are not taken.

What has been done
Louisiana Extension mitigation, 4-H, and Sea Grant agents worked together to create a more hazard-resilient state. Fall 2011, Vermilion Parish 4-H faculty introduced two new words to 1200 4-H'ers in grades 4-12: resilient and subsidence. Students learned they have to be resilient and adapt to the challenge of rising sea level and the sinking of the coast, subsidence. Following an introductory presentation developed with assistance of Extension's coastal GIS specialist, 4-H members helped to install 28 survey benchmarks that were stamped with the precise elevation of their school or public facility. The program is being continued in Vermilion and other parishes under FEMA Hazard Mitigation Grant Program funding, and used to recruit and engage older 4-H'ers in developing mitigation project proposals for public facilities in their parishes. A faculty team from LSU AgCenter Biological and Agricultural Engineering and Construction Management departments in the College of Engineering and Louisiana Sea Grant joined together to design a unique course for youth in hazard mitigation to promote greater understanding of the vulnerabilities and risks associated with natural disasters. Lesson plans and class activities allow youth to learn step-by-step strategies in reducing disaster losses through hazard mitigation.

Results

As a result of the hazard mitigation project, 4-H members received instruction from guest speakers from various fields associated with state and parish planning, conservation, emergency management and construction engineering. The students participated in field trips to government officials' offices, sites that were retrofitted to increase protection, coastal restoration sites and more. Topics included: the basics of mitigation planning, building permitting, GIS mapping, storm surge, sea level rise, flood maps and insurance, proposal writing, cost-estimation, and model building. Put in the words of one youth participant, "When we began, we didn't even know what mitigation meant. What we did know is that every hurricane evacuation, we weren't sure if we would have a home when we returned. But, we didn't think we could change that. We learned that we can make a difference. Together, we created a plan to protect our parish Extension office. While the Extension office may not be where we live, to some of us, it's our home away from home." Another 4-H member commented on roofing construction, "I knew a little, most of the roof construction I've done is with tin on a barn. Now I know the importance of decking tape, synthetic underlayment and the proper type of roofing nails when installing a strong roof." Youth participating in the mitigation project have gained the knowledge and confidence to grow their voice at a parish level. They have also gained marketable skills such as conducting a preliminary building assessment and preparing a detailed grant application. Additionally, students have participated at a national level meeting focused on disaster education. A conversation regarding adding hazard mitigation to the 4-H program nationwide has begun. From the start of a lesson on sea level rise and subsistence demonstrated by planting elevation benchmarks, a new area of interest is developing.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

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

V(I). Planned Program (Evaluation Studies)

Evaluation Results

See Results section of impact reports.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 9

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%		5%	
402	Engineering Systems and Equipment	0%		43%	
403	Waste Disposal, Recycling, and Reuse	50%		5%	
404	Instrumentation and Control Systems	0%		6%	
511	New and Improved Non-Food Products and Processes	0%		33%	
512	Quality Maintenance in Storing and Marketing Non-Food Products	25%		8%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	0.0	7.7	0.0
Actual Paid	0.1	0.0	5.9	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**
3780	0	153484	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
3780	0	153484	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
6890	0	1188206	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, crop residues, or agricultural byproducts to produce and utilize fuels such as ethanol, biodiesel, and other next generation alternative fuels. A USDA-AFRI funded project accelerated AgCenter goals as state-wide research and extension programs not only targeted Louisiana clientele but had a more regional impact.

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. The USDA-AFRI project has commercial partners that have broadened the target audience from past years.

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. For the USDA-AFRI project, the AgCenter is cooperating in the development of a Bioenergy CoP.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1	0	0	0

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

Patent Applications Submitted

Year:	2014
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	2	11	11

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of agricultural producers providing biomass as feedstock for fuels

Year	Actual
2014	0

Output #2

Output Measure

- Number of Web page views

Year	Actual
2014	183943

Output #3

Output Measure

- Number of Web page visits
  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	Identification of crops and cropping systems capable of producing biomass.
2	Increased knowledge regarding the use of agricultural feedstocks to generate biofuels.
3	Farmers, processors and potential feedstock producers increase their knowledge regarding the use of agricultural feedstocks to generate biofuels.
4	Extension faculty and research scientists increase knowledge regarding feedstock generation and biofuel production.

Outcome #1

1. Outcome Measures

Identification of crops and cropping systems capable of producing biomass.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

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

Not Reporting on this Outcome Measure

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
2014	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. 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

Outcome #4

1. Outcome Measures

Extension faculty and research scientists increase knowledge regarding feedstock generation and biofuel production.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The technical hurdles that impair biofuel production in Louisiana include identifying feedstocks and range of production areas 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 through the USDA-AFRI project 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 for 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. The USDA-AFRI grant has now moved biofuels research, education, and extension efforts into several other AgCenter units. ASI has researched pretreatment options for multiple crop feedstocks. Callegari has developed and offered workshops on the conversion of waste cooking oil into biodiesel. The AFRI grant has accelerated variety development efforts for energycane varieties with improved cold tolerance and broader adaptation.

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 energycane variety selection and low-input sustainable crop production systems. Research and demonstration areas were planted at these northern locations to augment education efforts to a new clientele base. Modifications to existing pilot biorefinery facilities were completed. The pilot plant can process multiple feedstock crops (energycane and sweet sorghum initially) and pursue cutting edge processing technologies to demonstrate conversion of monomeric sugars to butanol, gasoline, and isoprene. Other research is quantifying the reduction in greenhouse gas emissions by growing energycane and sweet sorghum. More recent work has focused on sweet potato production for ethanol production. 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. The AgCenter is also a participant in two Sun Grant projects that involve variety testing for energycane and sweet sorghum.

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

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

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 10

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
806	Youth Development	100%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	100.0	0.0	0.3	0.0
Actual Paid	48.2	0.0	0.0	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**
2759840	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
2759840	0	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
5031294	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Louisiana 4-H Youth Development Program reaches 242,588 young people through hands-on educational programs in the mission mandates of Citizenship, Healthy Living and Science. Programs are designed to promote positive youth development by supporting the four essential elements of belonging,

independence, generosity and mastery.

Approximately 80% of these youth are reached through youth enrichment programs, camps, and after-school programs while approximately 20% of youth are impacted by the 4-H Club program. These programming efforts are supported by over 7,700 youth and adult volunteers.

The focus for this year's 4-H youth development statewide evaluations was **citizenship**. The results of that study are described in the impact report below.

2. Brief description of the target audience

Louisiana 4-H Youth Development Program targets youth ages 9-19 as well as teen and adult volunteers residing in all 64 parishes.

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, the number of course views, and the number of posts to the discussion boards are also provided.

- LA Camp Counselor Training - 375 students enrolled, 12,466 views, 3350 posts
- LA 4-H OMK Risk Management Training - 33 Students enrolled, 509 views, 110 posts
- LA 4-H Risk Management Training - 502 students enrolled, 5793 views, 1110 posts
- LA 4-H Youth Development and Volunteerism - 31 Students enrolled, 472 views, 66 posts
- LA 4-H Youth Development Programs - 37 students enrolled, 108 views, 18 posts

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	113317	283313	322650	523619

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

Patent Applications Submitted

Year:	2014
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	1	4	5

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2014	2577541

Output #2

Output Measure

- Number of Web page visits
  Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Number of youth participating in service projects

Year	Actual
2014	23249

Output #4

Output Measure

- Number of hours of service performed by youth

Year	Actual
2014	116245

Output #5

Output Measure

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

Year	Actual
2014	5

Output #6

Output Measure

- Number of teens serving on state leadership boards

Year	Actual
2014	153

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Increased scientific and technology literacy among Louisiana youth through hands-on scientific learning and discovery. (2014)
2	Youth are engaged as contributing citizens within their community. (2014)
3	Louisiana youth will increase teamwork and communication skills and practice personal leadership. (2015)
4	Louisiana youth will increase environmental stewardship and environmental advocacy. (2015)
5	Louisiana youth and adult volunteers are engaged as competent leaders in the Louisiana 4-H program. (2016)

Outcome #1

1. Outcome Measures

Increased scientific and technology literacy among Louisiana youth through hands-on scientific learning and discovery. (2014)

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Youth are engaged as contributing citizens within their community. (2014)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Americans are increasingly disengaged from the democratic process upon which the country was founded. Research suggests that youth programs that provide opportunities for meaningful service to the community result in more civic engagement (Morgan & Streb, 2001). For an activity to prove meaningful, youth need to be actively engaged in making decisions about the program. Providing youth with avenues to have a voice in the program is a cornerstone of active engagement and extends beyond tokenism to active decision-making and responsibility for the program (Cater, Machtmes, & Fox, 2008).

What has been done
The Louisiana 4-H Youth Development program offers youth opportunities to volunteer and to also pursue a deeper understanding of community problems through more in-depth programs. Youth are actively engaged in learning more about community problems, seeking solutions, planning and implementing interventions, and evaluating program impacts. Past projects have benefited local pet shelters, families with chronic and acute diseases, and natural disaster survivors. Environmental projects have also been a huge focus for local communities. Adult training has emphasized the service-learning cycle and the extension of one-shot community

service activities into multi-session programs that support youth transitioning from community service to service-learning.

Results
Baseline data were collected from Louisiana 4-H members (N = 147) using the civic engagement scale developed by Voight and Torney-Purta (2013). Youth were most likely to engage in civic behaviors like helping someone at school (n = 117; 80.1%) and participating in afterschool activities (n = 116; 79.5%). Youth were least likely to participate in school government (n = 30; 20.6%) and serve as leaders in school clubs (n = 36; 24.5%). Civic behaviors that were prevalent and offered the most opportunity for growth included helping to make schools (n = 83; 57.6%) and communities (n = 82; 56.1%) a better place. Civic attitudes were positive (M = 3.3; SD = .37) as measured by the 7-item scale. Youth responded to the items on a 4-point Likert scale. Youth responded most positively to the item "it is important to make the world a better place to live" (n = 143; 97.3%). The vast majority of youth believed that they could make a difference in the world (n = 143; 97.3%). Of that number, 100% of girls reported that they believed they could make a difference.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #3

1. Outcome Measures

Louisiana youth will increase teamwork and communication skills and practice personal leadership. (2015)

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Louisiana youth will increase environmental stewardship and environmental advocacy. (2015)

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Louisiana youth and adult volunteers are engaged as competent leaders in the Louisiana 4-H program. (2016)

Not Reporting on this Outcome Measure

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 # 11

1. Name of the Planned Program

Human Nutrition and Food (Adult)

☐ Reporting on this Program

Reason for not reporting

In an effort to move toward the joint reporting required with our 1890 sister institution for next year, we are reporting both adult and childhood nutrition under the Childhood Obesity initiative.

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: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	10.0	0.0	2.0	0.0
Actual Paid	{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

2. Brief description of the target audience

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2014	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: 2014

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2014	0

Output #2

Output Measure

- Number of Web page visits

Year	Actual
2014	0

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 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

Not Reporting on this Outcome Measure

Outcome #2

1. **Outcome Measures**

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

Not Reporting on this Outcome Measure

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}

VI. National Outcomes and Indicators

1. NIFA Selected Outcomes and Indicators

Childhood Obesity (Outcome 1, Indicator 1.c)	
11817	Number of children and youth who reported eating more of healthy foods.
Climate Change (Outcome 1, Indicator 4)	
26	Number of new crop varieties, animal breeds, and genotypes whit climate adaptive traits.
Global Food Security and Hunger (Outcome 1, Indicator 4.a)	
250	Number of participants adopting best practices and technologies resulting in increased yield, reduced inputs, increased efficiency, increased economic return, and/or conservation of resources.
Global Food Security and Hunger (Outcome 2, Indicator 1)	
0	Number of new or improved innovations developed for food enterprises.
Food Safety (Outcome 1, Indicator 1)	
1	Number of viable technologies developed or modified for the detection and
Sustainable Energy (Outcome 3, Indicator 2)	
0	Number of farmers who adopted a dedicated bioenergy crop
Sustainable Energy (Outcome 3, Indicator 4)	
0	Tons of feedstocks delivered.