

# 2014 Louisiana State University Combined Research and Extension Plan of Work

Status: Accepted

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## I. Plan Overview

### 1. Brief Summary about Plan Of Work

The mission of the LSU Agricultural Center (LSU AgCenter) is to enhance the quality of life for the people of Louisiana through research and educational programs that foster the best use of natural resources, conserve and protect the environment, enhance the development of existing and new agricultural and related enterprises, and develop human and community resources. In order to accomplish this mission, Louisiana Agricultural Experiment Station (LAES) scientists will continue to serve stakeholders by conducting relevant research and Louisiana Cooperative Extension Service (LCES) faculty will continue to deliver high-quality science-based educational and outreach programs, all designed to address the issues of critical importance to the people of Louisiana and the surrounding region.

Limited resources continue to present challenges for sustaining vital LSU AgCenter projects and programs. It is likely that funding constraints will continue to challenge statewide extension and research programs. This limitation in funding will necessitate the constant review of programs for relevance and program impact so that available resources can be appropriately allocated to assure the maximum return on investment expected from funding partners and clientele. Any additional reduction in personnel and/or reduced operating and travel budgets will mean further consolidations and possible additional reductions in research and extension programs. New approaches to conducting business will become the norm to meet the ever-changing needs of our stakeholders in the agriculture and natural resource communities as well as the youth and families served by our organization. Increased reliance on new technologies and tools such as social media; increased external funding and funding from local entities; and even greater dependence on trained volunteers will become increasingly important as attempts to deliver high quality programs continue.

Key planned program focus areas for FY2014 include:

1. **Animal Enterprises** focusing on increasing the sustainability and profitability of Louisiana's animal and aquaculture systems
2. **Childhood Obesity** focusing on increased consumption of fruits and vegetables, increasing time in physical activity and assessing nutrition during pregnancy as a determinant of childhood obesity
3. **Field Crops** focusing on improved production systems with BMP's and profitability of Louisiana's field crops
4. **Food Safety** focusing on seafood, raw produce, and processed commodity- safety, certification programs and consumer health
5. **Global Food Security & Hunger (Food Access)** focusing on food accessibility, affordability and policy
6. **Horticulture** focusing on consumer horticulture; landscape ornamentals and turf; and home, school and community gardens
7. **Human Nutrition and Food (adults)** focusing on prevention of chronic disease and obesity-related illnesses in Louisiana adults
8. **Natural Resources & the Environment** focusing on the state's forestry industry, wildlife conservation, wetland plants, water resources and waste management
9. **Resilient Communities and Economies** place-based and people-based projects and programs focusing on community development; disaster preparedness, mitigation and recovery; risk awareness;

sustainable housing; agrosecurity; agritourism; and rural broadband connectivity

10. **Sustainable Energy** focusing on feedstocks, alternative biofuels, and biomass processing

11. **Youth Development** focusing on citizenship and science literacy

**Estimated Number of Professional FTEs/SYs total in the State.**

Year	Extension		Research	
	1862	1890	1862	1890
2014	250.0	0.0	132.0	0.0
2015	250.0	0.0	130.0	0.0
2016	250.0	0.0	130.0	0.0
2017	250.0	0.0	130.0	0.0
2018	250.0	0.0	130.0	0.0

**II. Merit Review Process**

**1. The Merit Review Process that will be Employed during the 5-Year POW Cycle**

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

**2. Brief Explanation**

During the next five years rigorous reviews of all programs will be critical as the LSU AgCenter continues to make every effort to ensure it is conducting business in the most effective and efficient way possible. The LSU AgCenter is identifying and evaluating strategies for conducting program reviews on a scheduled basis. Peer reviews for proposed research activities of individual scientists will continue according to NIFA guidelines. Review comments will be solicited from peer scientists and state extension specialists. The comments and a synthesis of recommendations will be provided to the originating scientists or team of faculty by the administration. State-level commodity groups meet at least annually, and LAES and LCES faculty will continue to make presentations and receive comments/suggestions regarding future research and educational programming needs from these key groups. External extension advisory councils continue to validate LCES programs. Internal LSU AgCenter Exchange (ACE) or equivalent groups made up of multi-disciplinary faculty provide review and focusing of statewide research and extension efforts. Internal LSU AgCenter program reviews will continue to assess program effectiveness and establish program priorities.

### III. Evaluation of Multis & Joint Activities

#### **1. How will the planned programs address the critical issues of strategic importance, including those identified by the stakeholders?**

The LSU AgCenter Business Plan is the basic framework that provides strategic guidance for addressing critical needs of Louisiana stakeholders with regards to agriculture, environment and natural resources, youth, nutrition and health, families and communities. Further input from stakeholder-driven sessions will guide the development of additional strategies for implementation and modification of the business plan.

Both extension and research programs regarding critical issues of strategic importance are addressed after identification and prioritization by stakeholder groups, consideration by state-level extension specialists and research scientists, and input from parish and regional faculty. Following identification of the issues, LSU AgCenter personnel coordinate efforts in a systematic way to address the need. At this stage, parish-level extension agents then become the frontline educators, working through their stakeholder groups to plan, implement, and evaluate strategies. Logic models are being developed and constantly refined for all major program areas to insure that critical issues of strategic importance are appropriately addressed.

#### **2. How will the planned programs address the needs of under-served and under-represented populations of the State(s)?**

LSU AgCenter Extension and Research programs are made available to all of the people of Louisiana. Major emphasis is placed on publicizing all educational opportunities through multiple media outlets--direct mail; telephone and text; electronic mail; radio; newspaper; and other mass media as well as through social media outlets such as Facebook, Twitter; YouTube and blogs.

Stakeholder advisory groups are key representatives that assist the LSU AgCenter in identifying the needs of both under-served and target populations and designing programs to address those needs. A major component of making that happen is having individuals from a range of audiences as members of the advisory councils.

A major effort is underway to address the particular needs of minority youth in the 4-H program, diversify youth development outreach and address issues regarding equity in access to extension programs. The LSU AgCenter has also been involved in the SERA 37 project to be in a better position to address the needs of the growing Hispanic population in the state. Community nutrition programs continue to target low income and underserved residents of the state. Programs like Smart Bodies which are typically delivered through schools reach the under-served and under-represented populations of the state by bringing nutrition education to a common venue where all children and youth can be exposed to healthy eating concepts.

#### **3. How will the planned programs describe the expected outcomes and impacts?**

Planned programs will describe outputs; short term learning and research outcomes; medium term behavior changes; and longer term environmental, policy and societal outcomes based on the issue prompting the planned program. Additionally the benefit to the public, beyond program participants, will be communicated as an impact of key programs. Descriptions of these outcomes and impacts by both extension and research may be expressed in terms of economic benefits, change in quality of life and/or public value in addition to the basic knowledge gained, attitudes changed, skills acquired or behavior

changed.

#### **4. How will the planned programs result in improved program effectiveness and/or**

With limited resources, strategically planned projects and programs must be cost-effective and efficient. Scaling back on program efforts by focusing on key issues identified by stakeholders for which the LSU AgCenter has resources will ensure that only critical programs are developed and implemented. These programs are delineated in the LSU AgCenter's Business Plan.

Using a logic model to guide the development and evaluation of program efforts, it is more likely that program effectiveness and efficiency will be achieved. By beginning the program planning process with the focus on the end result in mind, one is forced to "think backwards" to the various steps needed to accomplish this final goal. As one is required to "think backwards," one is much more deliberate about determining the requirements for reaching the goal, or solving the problem. This approach to programming invariably improves program effectiveness and/or efficiency. Programming in this manner by extension and research results in an efficient use of time for both faculty and volunteers, and also serves as a blueprint for repeating the program. A concerted effort will be made to strengthen the evaluation elements of each program and the effective use of well-developed logic models dictates constant process evaluation to improve and expand program effectiveness and efficiency.

To insure that each major program area is evaluated periodically, the following 4-year base program evaluation schedule has been developed:

- FY2014-Beef, rice, sweet potatoes, water quality, coastal wetlands, 4-H citizenship, 4-H science literacy, food safety & portions of the resilient communities initiative
- FY2015-Dairy, cotton, sugarcane, natural fisheries, consumer horticulture, 4-H youth leadership, 4-H environmental education, childhood obesity & agritourism
- FY2016-Poultry, forestry, feed grains, commercial ornamentals & turf, sustainable energy, 4-H volunteer development, sustainable housing & Louisiana Master Gardener
- FY2017-Horses, aquaculture, soybeans/wheat, pasture & forage, wildlife, 4-H school gardens, human nutrition and food (adult) & Master Farmer

The results from these evaluation studies will be used to prepare program impact reports for NIFA, state and local funders and stakeholders and to improve programs.

## **IV. Stakeholder Input**

### **1. Actions taken to seek stakeholder input that encourages 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.**

Multiple methods are used to seek input from all stakeholders in a fair and impartial manner that allows all an equal voice. Input is sought from both traditional and nontraditional audiences and the advisory committee and commodity groups are the major vehicles through which stakeholders provide input. While some individuals are specifically sought out to provide input because of their role in the related program community, others are recruited using a variety of strategies. Public meetings are announced using tools such as email, newspaper, radio, Websites, Twitter, YouTube and blogs and stakeholders are encouraged to attend as they are able. Accommodations are provided for individuals with special needs. As an alternative, surveys are conducted to gather input from individuals who cannot attend meetings. Stakeholders are engaged in not only the planning, but also the implementation and evaluation of program efforts.

**2(A). A brief statement of the process that will be 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.**

Various methods are used to identify individuals and groups to have input into the programming process. One-on-one contact is an often-used method by which extension and research identify individuals and groups which have interest in guiding programming. Advisory committee members are a great help in identifying other stakeholders. The key is ensuring that individual stakeholders represent a common subset of the total target population so that the needs of all can be identified and considered. A concerted effort will be made to allow various individuals to participate in the process by rotating advisory committee members while maintaining equal representation of the target audience on the stakeholder committees.

**2(B). A brief statement of the process that will be used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them**

**1. Methods for collecting Stakeholder Input**

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Meeting with the general public (open meeting advertised to all)
- Survey 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 collected from stakeholder groups and individuals through the advisory committee process for all key programs, through external focus groups on various issues and by using various needs assessments and surveys. Advisory committee meetings with traditional and non-traditional stakeholder groups continue to be used most frequently. Surveys of both traditional and non-traditional stakeholder groups are being used more frequently to gather such input. Most recently, the LSU AgCenter Listens Initiative provided an open community-type forum to gather input from stakeholders. It is anticipated that a similar process will occur about every four years to update the LSU AgCenter's strategic plan. Utilizing Web-based survey tools has become the method-of-choice to collect input from stakeholders who cannot always participate in meetings. Occasionally focus group meetings and meetings with key individuals in a community are used to garner input. The nominal group technique or some modified version thereof is typically used to identify and prioritize issues in advisory committee meetings.

**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.**

The major means of utilizing stakeholder input is to assist faculty in identifying emerging issues and in evaluating ongoing programs. Stakeholder advisory groups help to redirect extension programs and research projects when necessary. Prioritization of issues needing attention is a major role of advisory committees. Input from the parish (county) level is often directed to one or more state level faculty for their consideration. Also, state-level advisory groups provide input directly to state specialists, and this information then goes back to the parish groups for their consideration. In the current economic climate, stakeholder input is also being used to redirect program resources from programs having less impact to those with greater impact or impact potential. While stakeholders are not typically included directly in the hiring process, their input is considered in identifying the need to fill key positions. Stakeholders are involved in an advisory capacity, frequently participate in the interview process and provide input to the position selection committees. Legislative and regulatory actions affecting the future of our stakeholders is an important variable in the LSU AgCenter's process of planning for future program focus and prioritization of faculty positions.

## V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Animal Enterprises (Global Food Security & Hunger)
2	Childhood Obesity
3	Field Crops (Global Food Security & Hunger)
4	Food Access (Global Food Security & Hunger)
5	Food Safety
6	Horticulture
7	Human Nutrition and Food (Adult)
8	Natural Resources & the Environment
9	Resilient Communities and Economies
10	Sustainable Energy
11	Youth Development

## **V(A). Planned Program (Summary)**

### **Program # 1**

#### **1. Name of the Planned Program**

Animal Enterprises (Global Food Security & Hunger)

#### **2. Brief summary about Planned Program**

Teaching livestock and aquaculture producers in Louisiana to use emerging technologies to increase sustainability of production through increased efficiency and output are the primary goals of the LSU AgCenter's Animal Enterprises program. Targeted in this initiative are the producers and agri-businesses associated with food and fiber production in the state, including the largest animal industries--beef, poultry, dairy and horses--and the aquaculture and fisheries industry.

The LSU AgCenter strives to continually improve producers' adoption of recommended practices which contribute to the sustainability of their industry. Clientele are primarily reached through producer meetings, result demonstrations, farm visits and through the use of various Web-based media and social media tools such as blogs, Twitter and Facebook.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Medium Term (One to five years)

**5. Expending formula funds or state-matching funds :**Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

## 1. Program Knowledge Areas and Percentage

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
301	Reproductive Performance of Animals	0%		15%	
302	Nutrient Utilization in Animals	0%		10%	
303	Genetic Improvement of Animals	0%		10%	
304	Animal Genome	0%		5%	
305	Animal Physiological Processes	0%		5%	
307	Animal Management Systems	100%		20%	
308	Improved Animal Products (Before Harvest)	0%		5%	
311	Animal Diseases	0%		10%	
313	Internal Parasites in Animals	0%		5%	
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	0%		5%	
601	Economics of Agricultural Production and Farm Management	0%		10%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Situation and Scope)**

## 1. Situation and priorities

Gross farm income in 2012 for all animal enterprises was \$1.938 billion with a value added of \$1.112 billion, contributing \$3.05 billion to the Louisiana economy. The total value of beef cattle production in Louisiana was \$561.2 million in 2012; and the total economic contribution from dairying in Louisiana, including milk sales, animal sales and additional processing, was \$118.1 million. The gross farm value for all poultry production in Louisiana was \$958.5 million during the past year. The value added from poultry production to the Louisiana economy was estimated to be \$934.5 million, making the total value of poultry production in Louisiana nearly \$1.9 billion in 2012.

Poor economic conditions threaten sustainability of many Louisiana livestock operations. The state's hot, humid climate creates challenges of heat-stress, high parasite populations, poor reproduction, disease pressures, impaired water quality/quantity and low forage quality. Assessing animal adaptability and designing effective production systems that manage the relationships among genetics, physiology, nutrition, and environment are key concerns. Improving the safety, quality, functionality and consumer acceptance of animal products is an ongoing concern.

Additionally, the Louisiana aquaculture industry, including farm-raised crawfish, catfish, and alligators; minnows, fish bait, oysters, soft-shell crabs, and turtles contributed another \$257 billion to the state's economy in 2012. Rising input costs, global competition and increased regulations have strained the industry. Sustained aquaculture production and its benefits for rural economies will depend upon

enhanced profitability, diversification and improved production efficiencies.

**2. Scope of the Program**

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension

**V(D). Planned Program (Assumptions and Goals)**

**1. Assumptions made for the Program**

- The LSU AgCenter will continue to be the primary source of unbiased research information that will lead to positive behavior changes.
  - Resources and personnel will be available for continued research and extension effort on this topic.
  - Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
  - Expanded knowledge will result in behavioral change.

**2. Ultimate goal(s) of this Program**

The ultimate goal of the program is to continually improve adoption rates of recommended practices which contribute to the sustainability of food and fiber production and animal enterprises in Louisiana.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2014	20.0	0.0	25.0	0.0
2015	20.0	0.0	25.0	0.0
2016	20.0	0.0	25.0	0.0
2017	20.0	0.0	25.0	0.0
2018	20.0	0.0	25.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

Activities planned include research and extension programs directed towards animal and aquaculture agriculture. Extension outreach uses group and individual methods; mass media; applied research studies; result demonstrations; and field days, which incorporate the latest technological advances and use of

social media. Research outputs are measured through scientific presentations at field days, local and national meetings and publications.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

<b>Extension</b>	
<b>Direct Methods</b>	<b>Indirect Methods</b>
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Public Service Announcement</li> <li>● Newsletters</li> <li>● TV Media Programs</li> <li>● eXtension web sites</li> <li>● Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

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

**V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of Web page visits
- Number of Web page views
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

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

### **Outcome # 1**

#### **1. Outcome Target**

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

#### **2. Outcome Type : Change in Action Outcome Measure**

#### **3. Associated Knowledge Area(s)**

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

#### **4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

### **Outcome # 2**

#### **1. Outcome Target**

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

#### **2. Outcome Type : Change in Action Outcome Measure**

#### **3. Associated Knowledge Area(s)**

- 307 - Animal Management Systems
- 601 - Economics of Agricultural Production and Farm Management

#### **4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

## **V(J). Planned Program (External Factors)**

### **1. External Factors which may affect Outcomes**

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

#### **Description**

{NO DATA ENTERED}

## **V(K). Planned Program - Planned Evaluation Studies**

### **Description of Planned Evaluation Studies**

LSU AgCenter programs are evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. Specie-related programs are scheduled for evaluation as follows:

FY2014--Beef  
FY2015--Dairy  
FY2016--Poultry  
FY2017--Horses & Aquaculture

Appropriate evaluation tools and designs will be used to gather input on emerging issues, adoption and intention to adopt recommended practices, use of LSU AgCenter resources and basic demographic information. Resulting information is used to develop impact reports and programming efforts are adjusted accordingly.

**V(A). Planned Program (Summary)**

**Program # 2**

**1. Name of the Planned Program**

Childhood Obesity

**2. Brief summary about Planned Program**

Louisiana school-aged youth will participate in the Extension Smart Bodies program, which includes an innovative approach to teaching nutrition and physical activity by integrating the program into core curriculum academics to promote child wellness and healthy lifestyles. Parents will learn the importance of healthy eating habits in order to improve overall family health. Research efforts are aimed at determining how nutrition during pregnancy impacts childhood overweight and obesity. Nutrition efforts focused solely on adults are reported in the Human Nutrition and Food (Adults) section of this plan.

**3. Program existence :** Intermediate (One to five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

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

**V(C). Planned Program (Situation and Scope)**

**1. Situation and priorities**

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

**2. Scope of the Program**

- In-State Extension
- In-State Research

- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

**V(D). Planned Program (Assumptions and Goals)**

**1. Assumptions made for the Program**

Obesity is a complex problem requiring a multi-faceted approach. Achieving a healthy weight requires a lifelong commitment to change and adoption of recommended practices for healthy eating and physical activity and likely is influenced by intrauterine availability of nutrients. Environmental factors are not conducive to following a healthy lifestyle. Additional assumptions include:

- The LSU AgCenter will continue to be the primary source of unbiased research information that will lead to changing behavior.
  - Resources and personnel will be available for continued research and extension effort on this topic.
  - Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
  - Expanded knowledge will result in behavior change.

**2. Ultimate goal(s) of this Program**

The ultimate goal of this program is for youth to establish healthy eating and physical activity habits which lead to reduced incidence of childhood obesity and to determine if nutrition during pregnancy affects early adiposity. Indicators of goal achievement are:

- Increased physical activity time daily
- Increased consumption of fruits and vegetables
- Relationship of nutrients during pregnancy on infant body composition

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2014	15.0	0.0	0.4	0.0
2015	15.0	0.0	0.4	0.0
2016	15.0	0.0	0.4	0.0
2017	15.0	0.0	0.4	0.0
2018	15.0	0.0	0.4	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

The childhood obesity issue is addressed through a multi-disciplinary programming approach led by experts in nutrition, youth development, and school and community gardens. 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.

Research on nutrition during pregnancy will assess if the uterine environment influences infant body composition.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Billboards</li> <li>● Newsletters</li> <li>● TV Media Programs</li> <li>● Web sites other than eXtension</li> <li>● Other 1 (Social media)</li> </ul>

**3. Description of targeted audience**

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. Parents receive newsletters, while children are given Body Walk activity books, and the OrganWise Guys and 2-Step in the Classroom curricula are used by the classroom teacher. Parents have the opportunity to volunteer and participate in the Body Walk when it visits their child's school. The target audience for the 4-H Healthy Living program is youth in grades 4-12, parents, school administrators and faculty, and 4-H and Master Gardener volunteers.

## **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of Web page views
- Number of Web page visits
- Number of youth who participate in Smart Bodies Program
- Number of elementary schools participating in Smart Bodies program

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

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.

### **Outcome # 1**

#### **1. Outcome Target**

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. Outcome Type :** Change in Action Outcome Measure

#### **3. Associated Knowledge Area(s)**

- 702 - Requirements and Function of Nutrients and Other Food Components
- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle

#### **4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

### **Outcome # 2**

#### **1. Outcome Target**

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

**2. Outcome Type :** Change in Knowledge Outcome Measure

#### **3. Associated Knowledge Area(s)**

- 702 - Requirements and Function of Nutrients and Other Food Components

#### **4. Associated Institute Type(s)**

- 1862 Research

## **V(J). Planned Program (External Factors)**

### **1. External Factors which may affect 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.)

**Description**

{NO DATA ENTERED}

**V(K). Planned Program - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

LSU AgCenter programs are evaluated on a four year cycle with 1/4 of the major base programs evaluated each year. The Childhood Obesity program is scheduled for evaluation in FY 2015.

A mixed methods design with appropriate data collection tools will be used to assess emerging needs, adoption and intention to adopt recommended practices, behavior change, use of LSU AgCenter resources and basic demographic information. Resulting information is used to develop impact reports and to improve programs.

## **V(A). Planned Program (Summary)**

### **Program # 3**

#### **1. Name of the Planned Program**

Field Crops (Global Food Security & Hunger)

#### **2. Brief summary about Planned Program**

Teaching agricultural producers in Louisiana to use emerging technologies and practices to increase sustainability of production through increased efficiency and output are the primary goals of the LSU AgCenter's Field Crops program. Targeted in this program are the growers and agribusinesses associated with the production food and fiber in the state, primarily those in the major field crops areas--Sugarcane, soybeans, rice, cotton, feed grains, and sweet potatoes.

The LSU AgCenter strives to continually improve growers' adoption of recommended practices which contribute to the sustainability of food and fiber production. Clientele are primarily reached through producer meetings, result demonstrations, farm visits and through the use of various Web-based media and social media tools such as blogs, Twitter and Facebook.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Medium Term (One to five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

## 1. Program Knowledge Areas and Percentage

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
101	Appraisal of Soil Resources	5%		5%	
102	Soil, Plant, Water, Nutrient Relationships	5%		5%	
136	Conservation of Biological Diversity	0%		5%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		5%	
202	Plant Genetic Resources	0%		5%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%		5%	
204	Plant Product Quality and Utility (Preharvest)	0%		5%	
205	Plant Management Systems	60%		10%	
206	Basic Plant Biology	0%		5%	
211	Insects, Mites, and Other Arthropods Affecting Plants	10%		10%	
212	Pathogens and Nematodes Affecting Plants	5%		10%	
213	Weeds Affecting Plants	5%		5%	
216	Integrated Pest Management Systems	10%		10%	
601	Economics of Agricultural Production and Farm Management	0%		10%	
606	International Trade and Development	0%		5%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Situation and Scope)****1. Situation and priorities**

Louisiana's cropping systems pose agronomic, economic, and environmental challenges. Variable soils, climatic conditions, and pest pressures affect crop yield and input costs. Furthermore, commodity price instabilities promote producer concerns about sustainability of agricultural enterprises. Major crops include corn, cotton, rice, grain sorghum, soybeans, sugarcane, sweet potatoes, and wheat. Research in variety development, plant nutrition, pest management, cultural practices, and farm management are necessary to sustain crop production as a viable economic industry. Extension outreach will include continued efforts in general row crop agriculture and commercial vegetable and fruit production.

**2. Scope of the Program**

- In-State Extension
- In-State Research

- Multistate Research
- Multistate Extension
- Integrated Research and Extension

**V(D). Planned Program (Assumptions and Goals)**

**1. Assumptions made for the Program**

- The LSU AgCenter will continue to be the primary source of unbiased research information that will lead to positive behavior changes.
  - Resources and personnel will be available for continued research and extension effort on this topic.
  - Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
  - Expanded knowledge will result in behavior change.

**2. Ultimate goal(s) of this Program**

The ultimate goal of the program is to continually improve adoption rates of recommended practices which contribute to the sustainability of food and fiber production in the state.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2014	35.0	0.0	45.0	0.0
2015	35.0	0.0	45.0	0.0
2016	35.0	0.0	45.0	0.0
2017	35.0	0.0	45.0	0.0
2018	35.0	0.0	45.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

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

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Public Service Announcement</li> <li>● Newsletters</li> <li>● TV Media Programs</li> <li>● eXtension web sites</li> <li>● Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

Approximately 6,178 growers with 2.9 million acres of land in production and related agribusinesses:

- **Cotton**--415 producers with 225,095 acres in production who produced 227 million pounds of cotton.
- **Feed grains**--1,341 producers with 533,395 acres in production who produced 90 million bushels of corn.
- **Rice**--1,030 producers with 391,036 acres in production who produced 25,822,982 cwt. of rice.
- **Soybeans**--2,329 producers with 1.1 million acres in production who produced 50 million bushels of soybeans
- **Sugarcane**--483 producers with 427,044 acres in production who produced 3.4 billion pounds) of raw sugar and 101 million gallons of molasses.
- **Sweet potatoes**--49 producers with 9,730 acres in production who produced 3.8 million bushels of sweet potatoes.
- **Wheat**--531 growers with 255,864 acres in production who produced 14.9 bushels of wheat.

**V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of Web page visits
  - Number of Web page views
  - Number of field demonstrations
  - Number of grower field days
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	Increased profitability and sustainability of Louisiana crops and cropping systems.

**Outcome # 1**

**1. Outcome Target**

Increased profitability and sustainability of Louisiana crops and cropping systems.

**2. Outcome Type : Change in Action Outcome Measure**

**3. Associated Knowledge Area(s)**

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

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

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

**Description**

{NO DATA ENTERED}

## **V(K). Planned Program - Planned Evaluation Studies**

### **Description of Planned Evaluation Studies**

LSU AgCenter programs are evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. Areas in this initiative that are scheduled for evaluation are:

FY2014-Rice & Sweet Potatoes  
FY2015-Cotton & Sugarcane  
FY2016-Feed grains  
FY2017-Soybeans & Wheat

Appropriate evaluation tools are used to gather input on emerging issues, adoption and intention to adopt recommended practices, use of LSU AgCenter resources and basic demographic information. Resulting information is used to develop impact reports and programming efforts are adjusted accordingly.

## **V(A). Planned Program (Summary)**

### **Program # 4**

#### **1. Name of the Planned Program**

Food Access (Global Food Security & Hunger)

#### **2. Brief summary about Planned Program**

The Global Food Security and Hunger program in Louisiana focuses on the food accessibility issue and the SNAP program provides the primary mechanism for delivering this program. Using a systems-based approach, this program targets the youth in the state that often do not have access to healthy foods for regular consumption. The overall goal is to create an environment of healthy, hunger-free kids. Sixteen (16) paraprofessionals support the work of extension faculty in delivering this program.

**NOTE: This initiative plan area has been modified from previous years and the field crops and animal enterprises work moved to other sections of the plan.**

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

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

**V(C). Planned Program (Situation and Scope)**

1. Situation and priorities

Due to the state's high rate of poverty, many citizens do not have access to and/or consume nutritious foods. Poverty rates are higher among African Americans and children under 18. Louisiana ranks 13th among states for Food Stamp Program participation with approximately 74% of the state Food Stamp eligible. Only 25% Louisiana adults consume 5 servings of fruits and vegetables daily. Access to fresh fruits and vegetables is a concern for this population.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

**V(D). Planned Program (Assumptions and Goals)**

1. Assumptions made for the Program

- The LSU AgCenter will continue to be the primary source of unbiased research information that will lead to positive behavior changes.
- Resources and personnel will be available for continued research and extension effort on this topic.
- Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
- Expanded knowledge will result in behavior change.

2. Ultimate goal(s) of this Program

The ultimate goals of the program are to create an environment of healthy, hunger-free kids in Louisiana by educating limited resource populations about accessing, preparing and consuming healthy foods.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2014	10.0	0.0	1.0	0.0
2015	10.0	0.0	1.0	0.0
2016	10.0	0.0	1.0	0.0
2017	10.0	0.0	1.0	0.0
2018	10.0	0.0	1.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

SNAP-Ed agents and educators will reach out to limited resource youth and families through direct education and 2,268,509 through indirect methods such as mass media including social media. Over 12,000 youth and 14,000 adults were involved in classes on dietary guidelines; 1,149 youth and 15,200 adults in food safety classes; 678 youth and 1560 adults in physical health classes; 1581 youth and 1882 adults in garden-based nutrition classes; and 2,248 adults in food budgeting workshops. Educational activities will include extension outreach using group and individual methods; mass media; research experiments; result demonstrations; and field days, incorporating the latest technological advances and use of social media. One key activity element for FY2014 will be the implementation of the program, Body Quest. It is an interactive program that uses technology in 3<sup>rd</sup> grade classrooms with the primary objectives of increasing fruit and vegetable consumption and physical activity; and increasing family involvement in healthful meal planning and preparation.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Public Service Announcement</li> <li>● Billboards</li> <li>● Newsletters</li> <li>● TV Media Programs</li> <li>● eXtension web sites</li> <li>● Web sites other than eXtension</li> <li>● Other 1 (Social media)</li> </ul>

**3. Description of targeted audience**

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

## **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of Web page views
- Number of Web page visits

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	Limited resource individuals gain access to and consume healthy foods.

**Outcome # 1**

**1. Outcome Target**

Limited resource individuals gain access to and consume healthy foods.

**2. Outcome Type : Change in Action Outcome Measure**

**3. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect 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.)

**Description**

{NO DATA ENTERED}

**V(K). Planned Program - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

A mixed methods design with appropriate data collection tools will be used to assess emerging needs, adoption and intention to adopt recommended practices, behavior change, use of LSU AgCenter resources and basic demographic information in this initiative area.

The BodyQuest segment of the SNAP-Ed program will be increased in duration from 10 to 17 weeks and the evaluation of the program will include treatment and control groups. Other series of SNAP-Ed classes will be evaluated using a pre- and -post test design to assess knowledge gain, attitude change and behavior change or intent to change regarding the selection and consumption of more fruits and vegetables in the daily diet and increasing physical activity. Individual surveys and 24 hour dietary recalls for youth and adults participants will be administered. Resulting information will

2014 Louisiana State University Combined Research and Extension Plan of Work  
be used to develop impact reports and to improve programs.

**V(A). Planned Program (Summary)**

**Program # 5**

**1. Name of the Planned Program**

Food Safety

**2. Brief summary about Planned Program**

The LSU AgCenter extension and research team works with food consumers to increase their knowledge of proper food selection, storage and preparation. This work is particularly important to low-income families. Additionally, education of food producers, small food businesses and food handlers is critical to insuring a safe and secure food supply. The LSU AgCenter plays a key role in providing training necessary for food safety certifications.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

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

**V(C). Planned Program (Situation and Scope)**

**1. Situation and priorities**

Changes in food production and distribution have increased the scope of foodborne illness outbreaks resulting in national and multi-national occurrences. Additionally, Louisiana is subjected to violent weather events due to its close proximity to the coast. These events create power outages and flooding. This leads to increased opportunities for foodborne illnesses especially in Louisiana's hot humid climate. Louisiana also is a state that holds many warm weather festivals which increases the likelihood of

food safety issues.

In a 2012 report from the Department of Health and Hospitals by Dr. Roule Ratar, it was estimated that 20-30 outbreaks of foodborne illnesses occur each year. These outbreaks result in approximately 163,357 individuals cases of foodborne illness with 56% of those being viral, 41% bacterial and the remaining 3% parasitic. Estimates are that 942 hospitalizations resulted from foodborne-related illnesses, 64% of which were from bacterial pathogens; 27% from viral pathogens and 9% from parasitic pathogens. Twenty-three (23) deaths in the state were attributed to foodborne illness. Due to the state's passive surveillance reporting system for foodborne illnesses, these numbers are probably low due to unreported foodborne illnesses.

Louisiana also has a large proportion of susceptible populations such as the elderly and economically challenged individuals: these individuals are least likely to seek care when experiencing foodborne illnesses and thus more likely to have more serious reactions to food poisoning. Research indicates that handling food correctly can prevent 90 to 95% of foodborne illnesses.

Commercial processors of seafood, meat, poultry, and juice are required to be certified in principles of HACCP (Hazard Analysis and Critical Control Point). Companies, such as Wal Mart, are requiring HACCP. Small companies and start-ups need help in meeting these requirements. Oyster companies that use a post-harvest treatment are required by the FDA to validate if their treatments adequately reduced levels of *Vibrio vulnificus* in oysters. Seafood safety concerns, exacerbated throughout the U.S. following the 2010 Gulf oil spill, still exist.

## **2. Scope of the Program**

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

## **V(D). Planned Program (Assumptions and Goals)**

### **1. Assumptions made for the Program**

- The LSU AgCenter will continue to be the primary source of unbiased research information that will lead to changing behavior.
- Resources and personnel will be available for continued research and extension effort on this topic.
- Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
- Expanded knowledge will result in behavior change.

### **2. Ultimate goal(s) of this Program**

The goals of this program are to:

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

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

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2014	3.0	0.0	3.0	0.0
2015	3.0	0.0	3.0	0.0
2016	3.0	0.0	3.0	0.0
2017	3.0	0.0	3.0	0.0
2018	3.0	0.0	3.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

Appropriate extension and research activities including result demonstrations, workshops, classes, certification programs, studies and effective use of a variety of media sources to address food safety-related issues will be used. Specific certification trainings will include Sanitation Control Protocol (SCP), Seafood HACCP; Meat and Poultry HACCP; Vacuum Packaging HACCP, Better Process Control School (BPCS) and ServSafe.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Public Service Announcement</li> <li>● Newsletters</li> <li>● TV Media Programs</li> <li>● Web sites other than eXtension</li> <li>● Other 1 (Social media)</li> </ul>

**3. Description of targeted audience**

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

### **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

### **V(H). State Defined Outputs**

#### **1. Output Measure**

- Number of individuals certified through food safety programs

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

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.

**Outcome # 1**

**1. Outcome Target**

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

**2. Outcome Type :** Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

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

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 2**

**1. Outcome Target**

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

**2. Outcome Type :** Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

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

**4. Associated Institute Type(s)**

- 1862 Research

## **V(J). Planned Program (External Factors)**

### **1. External Factors which may affect 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.)

#### **Description**

{NO DATA ENTERED}

## **V(K). Planned Program - Planned Evaluation Studies**

### **Description of Planned Evaluation Studies**

LSU AgCenter programs are evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. The Food Safety program area is scheduled for evaluation in FY2014.

An appropriate evaluation design will be used to gather input on emerging issues, adoption and intention to adopt recommended practices, use of LSU AgCenter resources and basic demographic information of clients. Resulting information will be used to develop impact reports and programming efforts are adjusted accordingly.

**V(A). Planned Program (Summary)**

**Program # 6**

**1. Name of the Planned Program**

Horticulture

**2. Brief summary about Planned Program**

Interest in horticulture-related topics is growing rapidly in Louisiana. LSU AgCenter extension and research programs in horticulture focus on two distinct clientele: commercial horticulture professionals and the consumer. The key in this effort is to provide timely, relevant, up-to-date, research-based, and environmentally friendly information to both clientele groups. The successful Louisiana Super Plants Program will continue in Louisiana nurseries. Both consumer and commercial clientele are reached through educational classes, workshops, farm and home visits, field days, garden shows and plant health clinics, one-on-one contact, newsletters, and mass media. The LSU AgCenter Web site is well-used by the consumer audience. Louisiana Master Gardener volunteers continue to extend extension's outreach to clients. The LCES School Garden initiative and Junior Master Gardener program will continue to expand.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

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

**V(C). Planned Program (Situation and Scope)**

**1. Situation and priorities**

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

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

## **2. Scope of the Program**

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

## **V(D). Planned Program (Assumptions and Goals)**

### **1. Assumptions made for the Program**

- The LSU AgCenter will continue to be the primary source of unbiased research information that will lead to changing behavior.
  - Resources and personnel will be available for continued research and extension effort on this topic.
  - Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
  - Expanded knowledge will result in behavior change.

### **2. Ultimate goal(s) of this Program**

The ultimate goals of this program are:

1. Commercial horticulture producers and professionals maintain profitable enterprises in an environmentally-safe manner.
2. Consumers adopt recommended practices that improve home grounds and protect the environment. Louisiana Master Gardener volunteers supplement the delivery of consumer horticulture program to clients.

## **V(E). Planned Program (Inputs)**

### **1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2014	25.0	0.0	15.0	0.0
2015	25.0	0.0	15.0	0.0
2016	25.0	0.0	15.0	0.0
2017	25.0	0.0	15.0	0.0
2018	25.0	0.0	15.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

Key horticulture program areas will address issues related to home grounds; home, community and school gardens and ornamentals and turf. The Louisiana Master Gardener program will provide volunteers to assist in addressing the growing needs of consumer horticulture audiences and increased emphasis will be placed on school and community gardening efforts. The Louisiana Super Plants Program will continue to be offered to local horticulture professionals.

Teaching methods will include appropriate 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. Type(s) of methods to be used to reach direct and indirect contacts**

Extension	
Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Public Service Announcement</li> <li>● Billboards</li> <li>● Newsletters</li> <li>● TV Media Programs</li> <li>● eXtension web sites</li> <li>● Web sites other than eXtension</li> <li>● Other 1 (Social media (blogs, etc.))</li> </ul>

**3. Description of targeted audience**

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

## **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of Web page views
- Number of Web page visits
- Number of Louisiana Master Gardeners completing training series
- Number of service hours contributed by all Louisiana Master Gardeners
- Number of contacts made using social media tools

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

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 Target**

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

**2. Outcome Type** : Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 213 - Weeds Affecting Plants

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 2**

**1. Outcome Target**

Percent adoption of recommended practices by commercial horticulture professionals and producers

**2. Outcome Type** : Change in Action Outcome Measure

**3. Associated Knowledge Area(s)**

- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 601 - Economics of Agricultural Production and Farm Management

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**V(J). Planned Program (External Factors)**

## 1. External Factors which may affect Outcomes

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

### Description

{NO DATA ENTERED}

## V(K). Planned Program - Planned Evaluation Studies

### Description of Planned Evaluation Studies

LSU AgCenter programs are evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. Areas in this initiative that are scheduled for evaluation are:

- FY2015-Consumer Horticulture
- FY2016-Commercial Horticulture
- FY2017-School Gardens

A mixed methods design with appropriate data collection tools will be used to assess emerging needs, adoption and intention to adopt recommended practices, behavior change, use of LSU AgCenter resources and basic demographic information. Resulting information is used to develop impact reports and to improve programs.

**V(A). Planned Program (Summary)**

**Program # 7**

**1. Name of the Planned Program**

Human Nutrition and Food (Adult)

**2. Brief summary about Planned Program**

Obesity and improper weight management are the leading causes of preventable death in the U.S. Heart disease, diabetes, cancer, and stroke are all linked to this widespread problem. Participants in weight-related, research-based educational programs will improve their knowledge and thus be encouraged to change their behavior in both eating habits and exercise routine. Research and Extension will continue their goal of reducing the number of clientele who are overweight or obese and those with other chronic disease risk factors. Group discussion, educational classes, workshops, and one-on-one intervention are all proven methods of dissemination of educational information.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

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

**V(C). Planned Program (Situation and Scope)**

**1. Situation and priorities**

Louisiana residents suffer from chronic diseases such as heart disease, stroke, cancer and diabetes at rates higher than the national average, while fruit and vegetable intake and participation in physical activity is below the national average. Approximately 7% of adults have been diagnosed with diabetes and 1 in 4 adults is obese. Louisiana has the fourth highest cardiovascular death rate in the nation, accounting for almost 40 percent of all deaths in the state. The state ranks 47th in overall health, 7th in the incidence

of diabetes and 8th in the incidence of high blood pressure. There is an alarming increase in the rate of Type 2 diabetes among youth. Maintaining a healthy lifestyle by eating well and being physically active can greatly impact these startling statistics.

**2. Scope of the Program**

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension

**V(D). Planned Program (Assumptions and Goals)**

**1. Assumptions made for the Program**

Participants will improve their knowledge and change their behaviors based on improvement in knowledge. Participants will be willing and motivated to change their behaviors. The LSU AgCenter Nutrition Team will be engaged and fully participate in implementation of nutrition programming efforts. LSU AgCenter will have the resources (personnel, facilities, materials, etc.) to conduct programming on these issues. There will be funding available for nutrition education programming and evaluation.

**2. Ultimate goal(s) of this Program**

The primary goals of this program are:

1. Increased awareness and knowledge among stakeholders regarding the relationship between nutrition and overall health.
2. Decrease in the number of clients with chronic disease risk factors related to weight and nutrition.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2014	10.0	0.0	2.0	0.0
2015	10.0	0.0	2.0	0.0
2016	10.0	0.0	2.0	0.0
2017	10.0	0.0	2.0	0.0
2018	10.0	0.0	2.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

Adult audiences will participate in activities to promote the maintenance of a healthy lifestyle by eating well and being physically active. Primary curricula to be used are:

- Smart Portions, a series of sessions that address nutrition, physical activity and eating habits for a healthy lifestyle
- Diabetes Nutrition Education Works (Diabetes NEWS) classes for Louisiana adults with diabetes or who had a family member with diabetes to educate them about managing the disease
- Eat for the Health of It, a Community Nutrition Education Program teaching the principles of healthy eating and physical activity based on the Dietary Guidelines for Americans

Other activities include:

- Family Nutrition Nights, a program for all family members to learn about nutrition and health
- A pilot program to develop a comprehensive county-based wellness program using the community development models

Research will be conducted to identify and evaluate nutrition and associated lifestyle factors related to improved health and well-being for Louisiana adults.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>• Education Class</li> <li>• Workshop</li> <li>• Group Discussion</li> <li>• One-on-One Intervention</li> <li>• Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>• Public Service Announcement</li> <li>• Billboards</li> <li>• Newsletters</li> <li>• TV Media Programs</li> <li>• Web sites other than eXtension</li> <li>• Other 1 (Social media)</li> </ul>

**3. Description of targeted audience**

The target audience for this initiative is Louisiana adults and college-aged students.

### **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
    - Direct Adult Contacts
    - Indirect Adult Contacts
    - Direct Youth Contacts
    - Indirect Youth Contact
  - Number of patents submitted
  - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

### **V(H). State Defined Outputs**

#### **1. Output Measure**

- Number of Web page views
  - Number of Web page visits
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

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 Target**

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

**2. Outcome Type** : Change in Action Outcome Measure

**3. Associated Knowledge Area(s)**

- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 503 - Quality Maintenance in Storing and Marketing Food Products
- 702 - Requirements and Function of Nutrients and Other Food Components
- 703 - Nutrition Education and Behavior

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 2**

**1. Outcome Target**

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

**2. Outcome Type** : Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

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

**4. Associated Institute Type(s)**

- 1862 Research

**V(J). Planned Program (External Factors)**

## 1. External Factors which may affect Outcomes

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

### Description

{NO DATA ENTERED}

## V(K). Planned Program - Planned Evaluation Studies

### Description of Planned Evaluation Studies

LSU AgCenter programs are evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. The statewide Human Nutrition and Food (Adult) program area was evaluated in FY 2013 and will be evaluated again in FY2017. Smaller subsets of the program will be evaluated in intervening years.

A mixed methods design will be used in conjunction with appropriate data collection tools and strategies to gather input on emerging issues, adoption and intention to adopt recommended practices, use of LSU AgCenter resources and basic demographic information. Results will be used to develop impact reports. Programming efforts can be adjusted accordingly.

## **V(A). Planned Program (Summary)**

### **Program # 8**

#### **1. Name of the Planned Program**

Natural Resources & the Environment

#### **2. Brief summary about Planned Program**

Louisiana is a state rich in water and other natural resources. The LSU AgCenter Research and Extension program strives to educate agricultural producers and others about the effective management and preservation of the state's abundant natural resources and environment through time-honored program delivery methods. Specific subject matter areas included in this initiative are:

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

The well-being of Louisiana's citizens depends on its resource-based economy. Louisiana's natural capital assets must be efficiently managed for both current and future generations. Effective resource management implies more than utilization. It also calls for a careful analysis of resource allocation decisions made today and their current and future positive and negative impacts. While research and extension efforts related to natural resource conservation, use, and management have increased in recent years, efforts have been fragmented and widely dispersed. Improved coordination of these efforts is critical.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

## 1. Program Knowledge Areas and Percentage

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
102	Soil, Plant, Water, Nutrient Relationships	10%		10%	
111	Conservation and Efficient Use of Water	10%		5%	
112	Watershed Protection and Management	25%		5%	
123	Management and Sustainability of Forest Resources	25%		20%	
133	Pollution Prevention and Mitigation	0%		5%	
135	Aquatic and Terrestrial Wildlife	20%		20%	
215	Biological Control of Pests Affecting Plants	0%		5%	
402	Engineering Systems and Equipment	0%		5%	
403	Waste Disposal, Recycling, and Reuse	5%		10%	
511	New and Improved Non-Food Products and Processes	0%		5%	
604	Marketing and Distribution Practices	0%		5%	
605	Natural Resource and Environmental Economics	5%		5%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Situation and Scope)****1. Situation and priorities**

Louisiana is a state of varied ecosystems and environments ranging from massive pine and oak forests to cypress swamps. Between the Gulf of Mexico and the numerous streams and rivers, the state has over 15,000 miles of coastland creating vast wetland areas. The state's forestry industry, representing 14 million acres and 150,000 landowners, contributes over \$3 billion in total value to the state's economy.

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

Animal waste handling and utilization presents a challenge to producers. More than 280,000 tons of animal and poultry waste are produced in Louisiana each year. Producers must handle this waste in an environmentally-friendly manner to minimize the potential negative effects waste can have on waterways. Animal wastes improperly applied to or stored on land can lead to runoff that can reduce surface and groundwater quality by introducing excessive levels of nutrients such as nitrogen and phosphorus, organic matter and pathogens into the environment.

Louisiana has the highest coastal erosion rate in the continental United States of almost 17 square miles per year according to the USGS. This equates to an area the size of a football field lost every hour and is caused by a variety of factors including climate change, human activities, and natural processes. The high rate of land loss threatens Louisiana industries that are essential to the entire nation including seafood, natural gas, petroleum, and global imports. The loss of native habitats for numerous wildlife and marine species is reaching a critical level. The need for certified coastal plant materials and planting methods to improve establishment were identified as quality control measures to respond to coastal erosion.

**2. Scope of the Program**

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

**V(D). Planned Program (Assumptions and Goals)**

**1. Assumptions made for the Program**

The assumptions made for this program are:

- The LSU AgCenter will continue to be the primary source of unbiased research information that will lead to positive behavior changes.
  - Resources and personnel will be available for continued research and extension effort on this topic.
  - Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
  - Expanded knowledge will result in behavior change.

**2. Ultimate goal(s) of this Program**

The ultimate goals of this program are to protect and enhance Louisiana's rich natural environment for future generations.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890

Year	Extension		Research	
	1862	1890	1862	1890
2014	20.0	0.0	27.0	0.0
2015	20.0	0.0	25.0	0.0
2016	20.0	0.0	25.0	0.0
2017	20.0	0.0	25.0	0.0
2018	20.0	0.0	25.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

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 will be expanded with nutrient management as a focus area. The Coastal Plants program will be maintained and coordination of natural resource extension and research activities by the Center for Natural Resource Economics and Policy (CNREP) will continue.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Public Service Announcement</li> <li>● Newsletters</li> <li>● TV Media Programs</li> <li>● eXtension web sites</li> <li>● Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

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

## **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of Web page visits
- Number of Web page views
- Number of farmers completing the educational phase of the Louisiana Master Farmer program
- Number of private pesticide applicators receiving initial certification
- Number of commercial pesticide applicators receiving initial certification
- Number of private pesticide applicators recertified
- Number of commercial pesticide applicators recertified
- Number of Master Loggers certified

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

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.

### **Outcome # 1**

#### **1. Outcome Target**

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

**2. Outcome Type** : Change in Action Outcome Measure

#### **3. Associated Knowledge Area(s)**

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

#### **4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

### **Outcome # 2**

#### **1. Outcome Target**

Adoption of recommended practices by farmers that lead to reduced non-point source pollution in Louisiana waterways.

**2. Outcome Type** : Change in Action Outcome Measure

#### **3. Associated Knowledge Area(s)**

- 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

#### 4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

### V(J). Planned Program (External Factors)

#### 1. External Factors which may affect 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.)

#### Description

{NO DATA ENTERED}

### V(K). Planned Program - Planned Evaluation Studies

#### Description of Planned Evaluation Studies

LSU AgCenter programs are evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. Areas in this initiative that are scheduled for evaluation are:

FY2014-Water Quality & Coastal Wetlands  
FY2015-Natural Fisheries  
FY2016-Forestry  
FY2016-Wildlife & Louisiana Master Farmer

Appropriate evaluation tools using a mixed method design are to gather input on emerging issues, adoption and intention to adopt recommended practices, use of LSU AgCenter resources and basic demographic information. Resulting information is used to develop impact reports and programming efforts are adjusted accordingly.

## **V(A). Planned Program (Summary)**

### **Program # 9**

#### **1. Name of the Planned Program**

Resilient Communities and Economies

#### **2. Brief summary about Planned Program**

The LSU AgCenter has developed a multi-faceted approach to address the economic consequences associated with natural disasters on individual/family, business and whole community levels. These efforts focus on prevention, preparation and mitigation. Programs foster entrepreneurship, adoption of broadband technologies, producing and interpreting hurricane hazard data that accounts for land subsidence and rising sea levels, planning to protect agricultural assets from natural, biological and radiological threats, helping governments understand their increased fiscal risks and meet the challenges of increasing threats in an era of diminishing federal assistance, and empowering citizens with tools to evaluate personal risk and take action to reduce their vulnerability. Several of the programs collaborate with industry associations and municipal and state governments and non-governmental organizations.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
402	Engineering Systems and Equipment	0%		5%	
601	Economics of Agricultural Production and Farm Management	0%		5%	
602	Business Management, Finance, and Taxation	0%		5%	
607	Consumer Economics	0%		10%	
608	Community Resource Planning and Development	15%		0%	
610	Domestic Policy Analysis	0%		15%	
611	Foreign Policy and Programs	0%		5%	
704	Nutrition and Hunger in the Population	0%		5%	
721	Insects and Other Pests Affecting Humans	5%		10%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		10%	
723	Hazards to Human Health and Safety	10%		5%	
801	Individual and Family Resource Management	0%		5%	
802	Human Development and Family Well-Being	5%		5%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	40%		5%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	10%		0%	
903	Communication, Education, and Information Delivery	15%		10%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Situation and Scope)**

1. Situation and priorities

Louisiana residents, businesses and governments face significant challenges from severe poverty in the northern Delta region and Florida parishes, and exposure to extreme weather events along major rivers and the coast. There is considerable uncertainty on all fronts, given the current instability in the national economic picture, cut-backs in the many federal programs that have sustained Americans in distress during recent decades, and the rising threats associated with climate change. As a food-producing state that exports to the nation, Louisiana also has a role to play in planning to detect and deter threats to agriculture from natural, biological or radiological contamination due to failure at any of three

nuclear power plants.

The poverty rate in Louisiana is 7 percent higher than other states in the U.S. (19.6 compared to 12.4 percent), and rural poverty in Louisiana continues to be more severe than urban (24.2 compared to 18.1 percent). Thirty eight percent of rural parishes are considered 'persistent poverty' parishes. In many rural parishes, broadband connectivity limits access to vast resources that can lead to a partial solution to this problem. Opportunities for agritourism development continue to grow as added value is sought for agricultural ventures in the state. Priority areas for sustainable economies are: 1) My Louisiana Program and 2) agri- and eco-tourism projects.

Louisiana leads the nation in flood damaged property. Vulnerability increases as sea level rises, the ground subsides and coastal marshes disappear. These changes threaten Louisiana residents, businesses and industries that are essential to the entire nation including seafood, natural gas, and petroleum. Forty percent of the flood insurance claims nationally have been paid in Louisiana; prior to Hurricane Sandy, the entire \$16 billion debt of the National Flood Insurance Program could be attributed to claims paid in Hurricanes Katrina and Rita. Flood barrier systems provide limited protection and have created an undue sense of security, leaving many without protection or insurance. The LSU AgCenter prioritizes programs that increase flood risk awareness and flood damage reduction through protective measures and programs that provide better risk data and analysis to local governments. These data help them prepare financially to fund their share of future disaster costs. The priority for sustainable housing is outreach to stimulate demand for and adoption of best practices for residential energy and resource efficiency, durable and resilient housing (mitigation), and healthy homes. In the planned program period, the LSU AgCenter will focus on creating resilience in the next generation through 4-H centered disaster resilience education and 4-H led mitigation planning projects.

## **2. Scope of the Program**

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension

## **V(D). Planned Program (Assumptions and Goals)**

### **1. Assumptions made for the Program**

- There will continue to be a need for homes that are energy and water efficiency; preserve the environment; resist natural hazards; and provide healthy environs for their occupants.
- Louisiana will see increased exposure to floods, storm surge, sea level rise and weather extremes due to climate change.
- Economic conditions will continue to be difficult through the planning cycle.
- The LSU AgCenter will continue to be the primary source of unbiased research-based information that will lead to improved understanding and appreciation of natural hazards and sustainable development.
- Community leaders, businesses and other stakeholders need access to community development and disaster resilience educational programs but do not have adequate resources to gain access.
- Participants will be empowered and motivated to adapt to the changing environment based on their expectations of safety, economic returns or improved quality of life.

- Information exists on researched-based best practices on how to educate rural residents concerning workforce development and agribusiness entrepreneurship.
- Resources and personnel will be available for continued research and extension effort on this topic.

**2. Ultimate goal(s) of this Program**

- Improve the sustainability of homes in Louisiana and across the Gulf region.
- Improve the economic situation in the Delta and Florida Parishes through broadband adoption and agro- and eco- tourism.
  - Provide better risk assessment tools and prepare parish and local governments to meet the fiscal challenges of increasing natural and technological disasters
  - Empower property owners so they know their risks - now and as conditions change - and know how to protect themselves from natural disasters as threats increase.
  - Prepare and equip Louisiana's agricultural and emergency management communities to detect, deter, survive and recover from natural, biological and radiological incidents.
  - Engage youth as the next generation of community and economic resilience.
  - Contribute significantly to the Extension Disaster Education Network as it achieve its mission of reducing the impact of disasters through resource-based education.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2014	10.0	0.0	5.6	0.0
2015	10.0	0.0	5.4	0.0
2016	10.0	0.0	5.3	0.0
2017	10.0	0.0	5.4	0.0
2018	10.0	0.0	5.4	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

The Resilient Communities and Economies initiative includes activities in the following areas:

**Economic Development**

- Agritourism, a program conducted in the north Louisiana Delta region
- Connect My LA, a program designed to create broadband awareness and increase use in an 18-parish region which includes the Delta region and Florida parishes

**Disaster Resilience - Place-based**

- Financial Disaster Resilience for Local Governments, a program involving studies of financial capacity of local governments to meet disaster recovery obligations and educational programs to improve capacity
- Agrosecurity Planning; Hurricane and Nuclear Exercises are separate initiatives to protect Louisiana's agriculture from natural and technological hazards, including hurricanes, terrorism and accidental releases from nuclear power plants

**Disaster Resilience and Sustainability - People-based**

- Sustainable Housing / LaHouse, a program that educates homeowners and building industry professionals about building hazard-resistant, resource-efficient, healthy homes.
- Disaster Recovery and Mitigation reaches across the many disciplines of Cooperative Extension to put relevant information in the hands of citizens for disaster recovery and to reduce vulnerability to the hazards.

**Risk Appreciation (Awareness, Avoidance and Data Enhancement)**

- Interactive, online hazard maps, building code education, a program that provides same-page building-site information to the property owner, builder, and regulatory agencies
- Sea Level Rise, Subsidence and Storm Surge, programs include storm surge and flood modeling that reflect projected conditions (sea level rise and subsidence), while also detecting inaccuracies in the modeling data and obtaining better data to fill the gaps.

**The Extension Disaster Education Network (EDEN)**

The LSU AgCenter provides network support (Intranet and Internet) for EDEN. This network links Cooperative and Sea Grant Extension educators from across the U.S. and various disciplines, from food safety to field safety, from physical to psychological, and from government to community development. EDEN enables resource sharing and produces materials, workshops and community planning resources to help its members reduce the impact of disasters in their states and communities.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>• Education Class</li> <li>• Workshop</li> <li>• Group Discussion</li> <li>• One-on-One Intervention</li> </ul>	<ul style="list-style-type: none"> <li>• Public Service Announcement</li> <li>• Newsletters</li> <li>• TV Media Programs</li> <li>• eXtension web sites</li> <li>• Web sites other than eXtension</li> <li>• Other 1 (Social media)</li> </ul>

**3. Description of targeted audience**

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

- Agritourism focuses on the Delta region of the state in northeast Louisiana.
- 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 of food commodities and agribusiness.
- EDEN is a national network. Its primary audience is Extension educators in the 50 states and three territories. It targets consumers through its eXtension disaster issues communities of practice.
- The flood risk awareness and mitigation programs also have a national audience through service in the Association of State Floodplain Managers and Natural Hazard Mitigation Association.

### **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

### **V(H). State Defined Outputs**

#### **1. Output Measure**

- Number of Web page views
- Number of Web page visits
- Number of LaHouse Resource Center visitors
- Number of building professionals who participated in sustainable housing educational activities (seminars, tours, technical assistance)
- Number of consumer contacts in LaHouse sustainable housing and landscaping educational activities
- Number of LaHouse Facebook followers (Likes)

- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

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 Target**

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

**2. Outcome Type :** Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

- 602 - Business Management, Finance, and Taxation
- 608 - Community Resource Planning and Development
- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 903 - Communication, Education, and Information Delivery

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 2**

**1. Outcome Target**

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

**2. Outcome Type :** Change in Action Outcome Measure

**3. Associated Knowledge Area(s)**

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

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 3**

**1. Outcome Target**

Consumer adoption of high performance building and retrofitting practices

**2. Outcome Type** : Change in Action Outcome Measure

**3. Associated Knowledge Area(s)**

- 402 - Engineering Systems and Equipment
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 4**

**1. Outcome Target**

Housing professionals specify or recommend high performance building and retrofitting practices

**2. Outcome Type** : Change in Action Outcome Measure

**3. Associated Knowledge Area(s)**

- 402 - Engineering Systems and Equipment
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 5**

**1. Outcome Target**

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

**2. Outcome Type** : Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

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

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 6**

**1. Outcome Target**

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

**2. Outcome Type : Change in Action Outcome Measure**

**3. Associated Knowledge Area(s)**

- 903 - Communication, Education, and Information Delivery

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 7**

**1. Outcome Target**

Increased use of flood map portal service by clientele

**2. Outcome Type : Change in Action Outcome Measure**

**3. Associated Knowledge Area(s)**

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

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 8**

**1. Outcome Target**

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. Outcome Type :** Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

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

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 9**

**1. Outcome Target**

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

**2. Outcome Type :** Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

- 608 - Community Resource Planning and Development
- 723 - Hazards to Human Health and Safety
- 903 - Communication, Education, and Information Delivery

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 10**

**1. Outcome Target**

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.

**2. Outcome Type :** Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

- 723 - Hazards to Human Health and Safety
- 903 - Communication, Education, and Information Delivery

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 11**

**1. Outcome Target**

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

**2. Outcome Type :** Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

- 723 - Hazards to Human Health and Safety
- 903 - Communication, Education, and Information Delivery

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 12**

**1. Outcome Target**

Youth are more engaged in community development

**2. Outcome Type :** Change in Action Outcome Measure

### **3. Associated Knowledge Area(s)**

- 608 - Community Resource Planning and Development
- 903 - Communication, Education, and Information Delivery

### **4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

## **V(J). Planned Program (External Factors)**

### **1. External Factors which may affect 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.)

#### **Description**

{NO DATA ENTERED}

## **V(K). Planned Program - Planned Evaluation Studies**

### **Description of Planned Evaluation Studies**

LSU AgCenter programs are evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. Resilient Communities (minus Agritourism and Sustainable Housing) is scheduled for evaluation in FY2014. Agritourism will be evaluated in FY2015 and Sustainable Housing in FY2016.

Appropriate evaluation designs and processes are used to gather information on emerging issues, adoption and intention to adopt recommended practices, use of LSU AgCenter resources and basic demographic information. Resulting information is used to develop impact reports and programming efforts are adjusted accordingly. ..

**V(A). Planned Program (Summary)**

**Program # 10**

**1. Name of the Planned Program**

Sustainable Energy

**2. Brief summary about Planned Program**

Agricultural landowners, producers and managers should understand their options for sustainable ways to grow biomass and how they can reduce their own energy needs through the use of more efficient technology and conservation. The LSU AgCenter Research and Extension program educates growers and processors about renewable energy use in agricultural production systems. The overarching goal of this initiative is to assist agricultural producers in understanding how they can contribute to the nation's supply of biofuels by producing the biomass necessary to produce that fuel and to lead others in the adoption of new technologies that will reduce the demands on our current energy supply.

**3. Program existence :** Intermediate (One to five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

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

**V(C). Planned Program (Situation and Scope)**

**1. Situation and priorities**

The Energy Independence and Security Act of 2007 called for at least 12.95 billion gallons of renewable fuels to be used in the U.S. in 2010 and 36 billion gallons (16 billion gallons of cellulosic biofuel) by 2022. The recent USDA Roadmap on Biofuels calls for production of 13.4 billion gallons of advanced biofuels from grassy crops. The rapid expansion of the biofuel's industry has occurred as a result, for the

most part, of this country's growing dependence of foreign oil.

Agriculture underlies the country's push to sustainable energy, yet agricultural feedstocks are available only in a fixed window of time. Flexibility in operation of a biorefinery requires continuous feedstock delivery. The technical hurdles that block biofuel production in Louisiana range from finding multiple feedstocks for year round delivery, developing the tools for producers and processors to determine value of these crops, developing processing technologies for biofuels and finding supplemental high value products to improve the economics.

Biofuels derived from plant biomass can contribute substantially to improving energy independence of the United States. Louisiana has a long growing season and high vegetation diversity that can foster biomass production to support a biofuel industry. Maximizing biomass production potential for the state necessitates identification of crops and cropping systems capable of producing high biomass in an economically viable and environmentally sustainable manner. Extension faculty in the W.A. Callegari Center will continue to educate clientele in the production and use of biodiesel as an alternative fuel.

**2. Scope of the Program**

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

**V(D). Planned Program (Assumptions and Goals)**

**1. Assumptions made for the Program**

- The LSU AgCenter will continue to be the primary source of unbiased research information that will lead to changing behavior.
  - Resources and personnel will be available for continued research and extension effort on this topic
  - Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
  - Expanded knowledge will result in behavior change.

**2. Ultimate goal(s) of this Program**

The goals of this program are to educate agricultural producers who can contribute to the source of biomass to create biofuels and to educate consumers regarding the adoption of energy-saving and alternative energy technologies.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890

Year	Extension		Research	
	1862	1890	1862	1890
2014	3.0	0.0	7.7	0.0
2015	3.0	0.0	7.9	0.0
2016	3.0	0.0	8.7	0.0
2017	3.0	0.0	7.9	0.0
2018	3.0	0.0	7.9	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

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

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Newsletters</li> <li>● TV Media Programs</li> <li>● eXtension web sites</li> <li>● Web sites other than eXtension</li> <li>● Other 1 (Social media)</li> </ul>

**3. Description of targeted audience**

The target audience for this program includes agricultural producers in Louisiana and southeast United States; consumers; renewable and natural resource energy production industries; and LSU AgCenter faculty.

## **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of agricultural producers providing biomass as feedstock for fuels
- Number of Web page views
- Number of Web page visits

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

<b>O. No</b>	<b>Outcome Name</b>
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.

**Outcome # 1**

**1. Outcome Target**

Identification of crops and cropping systems capable of producing biomass.

**2. Outcome Type :** Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

- 402 - Engineering Systems and Equipment
- 511 - New and Improved Non-Food Products and Processes

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 2**

**1. Outcome Target**

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

**2. Outcome Type :** Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

- 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

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 3**

**1. Outcome Target**

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

**2. Outcome Type :** Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

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

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

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

**Description**

{NO DATA ENTERED}

**V(K). Planned Program - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

LSU AgCenter programs are evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. This program area is scheduled for evaluation in FY2016.

Appropriate evaluation tools and designs will be used to gather input on emerging issues, adoption and intention to adopt recommended practices, use of LSU AgCenter resources and basic demographic information. Resulting information is used to develop impact reports and programming efforts are adjusted accordingly.

**V(A). Planned Program (Summary)**

**Program # 11**

**1. Name of the Planned Program**

Youth Development

**2. Brief summary about Planned Program**

The Louisiana 4-H Youth Development Program targets Louisiana young people through educational efforts in three mission mandate areas: Citizenship, Healthy Living and Science and Technology. Programs focus on the development of four essential elements in youth--belonging, independence, mastery and generosity. In this state, 4-H continues to offer a broad range of learning opportunities for youth, including but not limited to, traditional school club programs, school enrichment activities and community service learning. Delivery of educational programs other than in-school clubs will be emphasized. Youth will be guided in developing skills that result in effective decision-making, planning, and interacting with others.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :**Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

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

**V(C). Planned Program (Situation and Scope)**

**1. Situation and priorities**

Through educational programs delivered in organized clubs, special interest groups, after- school programs, school enrichment and other delivery methods, Louisiana 4-H offers a broad range of opportunities to develop life skills and leadership potential. Through these educational opportunities, youth become positive, productive, and capable citizens of their communities. Community, state, and national assessments through an advisory process facilitate providing meaningful, in-depth, quality program. Resources are allocated to areas where needs and potential for benefit can be maximized. The 4-H program evaluation focus for FY2014 will be on Citizenship and Science Literacy.

While national volunteer rates continue to rise (26.8%), only 20% of Louisiana citizens volunteer, which results in a state ranking of 47th in the nation. While youth and adult volunteers are serving to make a difference, there remains an unclear yet blatant sense among most that volunteer efforts matter little to

the civic life and health of communities. Americans express despair over the drift away from core civic values to emphasize "winning at all costs." Greed and selfishness eclipse family, community, and responsibility.

America faces a crisis in its ability to keep up with the increasing demand for professionals who are literate in science and math. Many Louisiana youth are ill-prepared to enter careers in which mastery of science concepts is a pre-requisite. In Louisiana, the percentage of 4th graders with below basic test scores in science was 43%. The percentage of 8th graders with below basic test scores in science was 53%. Less than half (44%) of youth had computers in their home.

Healthy living is also a priority for Louisiana 4-H. According to KIDS COUNT, Louisiana has ranked 49th in the nation on childhood health and well-being since 2002. Louisiana received a D on the Report Card on Physical Activity and Health for Children and Youth. The effort in this area will be reported under the NIFA Childhood Obesity initiative area.

**2. Scope of the Program**

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension

**V(D). Planned Program (Assumptions and Goals)**

**1. Assumptions made for the Program**

- The LSU AgCenter will continue to be the primary source of unbiased research information that will lead to changing behavior.
  - Resources and personnel will be available for continued research and extension effort on this topic.
  - Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
  - Expanded knowledge will result in behavior change.

**2. Ultimate goal(s) of this Program**

The goal of the Louisiana 4-H program is to provide educational experiences and opportunities where youth can achieve a sense of belonging, independence, mastery and generosity which will impact their adult lives.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2014	100.0	0.0	0.3	0.0

Year	Extension		Research	
	1862	1890	1862	1890
2015	100.0	0.0	0.3	0.0
2016	100.0	0.0	0.3	0.0
2017	100.0	0.0	0.3	0.0
2018	100.0	0.0	0.3	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

Age appropriate educational experiences will be provided to youth in the following focus areas: Citizenship; Healthy Living; and Science and Technology.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Public Service Announcement</li> <li>● Billboards</li> <li>● Newsletters</li> <li>● TV Media Programs</li> <li>● eXtension web sites</li> <li>● Web sites other than eXtension</li> <li>● Other 1 (Social media)</li> </ul>

**3. Description of targeted audience**

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

## **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of Web page views
- Number of Web page visits
- Number of youth participating in service projects
- Number of hours of service performed by youth
- Number of current NIFA 4-H Programs of Distinction designations

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

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 Target**

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

**2. Outcome Type :** Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 2**

**1. Outcome Target**

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

**2. Outcome Type :** Change in Action Outcome Measure

**3. Associated Knowledge Area(s)**

- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 3**

**1. Outcome Target**

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

**2. Outcome Type :** Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

- 610 - Domestic Policy Analysis
- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 4**

**1. Outcome Target**

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

**2. Outcome Type** : Change in Knowledge Outcome Measure

**3. Associated Knowledge Area(s)**

- 610 - Domestic Policy Analysis
- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 5**

**1. Outcome Target**

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

**2. Outcome Type** : Change in Action Outcome Measure

**3. Associated Knowledge Area(s)**

- 610 - Domestic Policy Analysis
- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**V(J). Planned Program (External Factors)**

## 1. External Factors which may affect 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.)

### Description

{NO DATA ENTERED}

## V(K). Planned Program - Planned Evaluation Studies

### Description of Planned Evaluation Studies

LSU AgCenter programs are evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. Areas in this initiative that are scheduled for evaluation are:

- FY2014-4-H Citizenship & 4-H Science literacy
- FY2015-4-H Youth leadership & 4-H Environmental education
- FY2016-4-H Volunteer Development

A mixed methods design with appropriate data collection tools will be used to assess emerging needs, adoption and intention to adopt recommended practices, use of LSU AgCenter resources and basic demographic information. Resulting information is used to develop impact reports and to improve programs.