

2011 Mississippi 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

This plan of work is a joint plan of work between the Mississippi State University Extension Service (MSU-ES) and the Mississippi Agricultural and Forestry Experiment Station. The plan therefore includes extension and research from the 1862 land-grant institution in Mississippi.

Mississippi is a diverse state, with a variety of agricultural systems, a large population of ethnic minorities, and families and communities with unique and powerful needs. The land-grant universities meet this challenge with a broad spectrum of programming designed to reach these diverse audiences. Creation and transfer of knowledge to solve problems is the core of these efforts.

MSU-ES provides research-based educational programs and information in agriculture and natural resources, 4-H youth development, family and consumer education and community resource development to improve the economic, social, and cultural well-being of all Mississippians.

The foundation mission of MAFES is the creation of knowledge through fundamental and applied research in the fields of science related to agriculture, food, natural resources, the natural environment, people, and communities. The focus of these research programs is on enhancing and/or developing economically efficient and environmentally acceptable agricultural production and processing systems. The goals are to provide safe, nutritious, desirable food and fiber products and processes for consumers as well as to assure that the businesses which comprise Mississippi's agricultural industry have the information required to remain competitive in a global marketplace.

MSU-ES receives a Smith-Lever formula allocation of \$6,048,063 or 18.82% of its total allocated budget. MAFES receives a Hatch formula allocation (including multistate research funds) of \$3,851,695 or 12.89% of its total allocated budget.

The plan includes individual program plans from 25 different programs. These 25 programs reflect the integration of the agricultural sector in Mississippi and provide needed programming for the youth, families, and communities of the state. The 26 programs include the following:

- 4-H/Youth Development
- Agronomic Crops
- Animal Production
- Animal Protection
- Aquaculture Health
- Aquaculture Production
- Early Care and Education
- Enterprise and Community Development
- Nutrient Management/Water Quality
- Family Life
- Family Resource Management
- Forestry
- Human Health
- Horticulture
- Integrated Pest Management
- Family Leadership Development
- Human Nutrition
- Poultry
- Agribusiness/Risk Farm Management
- Wildlife and Fisheries
- Childhood Obesity
- Food Safety
- Global Food Security and Hunger
- Climate Change
- Sustainable Energy

Note: Budgeted SYs for MAFES have been modified due to a change in interpretation of the definition of SYs. Budgeted FTEs for MSU-ES have been modified due to budget reductions.

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	210.0	0.0	53.0	0.0
2012	210.0	0.0	53.0	0.0
2013	210.0	0.0	53.0	0.0
2014	210.0	0.0	53.0	0.0
2015	210.0	0.0	53.0	0.0

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

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

2. Brief Explanation

Research projects utilize both an internal university panel and an expert peer review as part of the regional research networks. These reviews cover all aspects of research project proposals, including scientific merit, budgets, and suitability of the research mission for the unit, experiment station, and regional consortium.

Extension programs undergo an internal university panel review. This review takes into consideration the need for the program (including stakeholder input), the methods utilized, the audience identified, and the methods for outcome/impact evaluation.

The 5-Year Plan of Work combined plan is reviewed by a combined internal and external university and external non-university panel. Panels are set up as appropriate for specific program plans with a focus on a broader review of the need, resources allocated, and expected outcomes of the programs.

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?**

Once the draft guidelines for AREERA were published in 1998, MSU initiated its new planning process. Each program plan in this Plan of Work reflects a group planning effort, including both research and extension where both are involved in the program.

To provide guidance for the program planning process, the planning groups not only used their professional expertise, but also had information at their disposal from the following sources:

- The stakeholder input process described in this document, including county and program advisory councils, state-level program advisory councils, research and extension center advisory meetings, key partners, and other sources;
- Outreach council meetings for research and extension;
- The county-level program delivery agreements developed by each local extension agent; and
- Professional peer review of the draft plans of work.

2. How will the planned programs address the needs of under-served and under-represented populations of the

Through the stakeholder input process described elsewhere in this Plan of Work, needs of all clientele groups,

including under-served and under-represented groups, were determined. (Most of the advisory groups mentioned in the stakeholder input process are required to be representative of all potential clientele.)MSU-ES also has specific procedures in place, such as "grassroots mailing lists," to reach all potential clientele, especially those in under-served and under-represented populations.

In addition to the stakeholder groups mentioned above, the outreach council has conducted a series of meetings around the state. These meetings were designed specifically to obtain input from under-served and under-represented populations.

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

Each planning group has developed one or more program plans using the logic model. In each program plan, expected outputs and outcome/impacts were developed. Most of the outcomes identified were intermediate- or long-term outcomes.

4. How will the planned programs result in improved program effectiveness and/or efficiency?

The creation of program planning groups has provided a mechanism for researchers and extension professionals to interact in the planning and implementation process. A required part of the joint plan of work is the sharing of information between the two "camps." The result has been the creation of numerous joint programs and enhanced interaction in all programming areas. Below are three examples of these joint efforts.

Southern Regional Aquaculture Center

The U.S. consumes increasingly greater amounts of fishery products than it produces. A strong domestic aquaculture industry is needed to increase production of fish and shellfish and reduce dependency on foreign suppliers. Centers provide a mechanism for assessing aquaculture industry needs, establishing research and extension priorities, and implementing regional research and extension projects designed to directly impact commercial aquaculture development.

The Southern Regional Aquaculture Center provides for coordination and prioritization of research and extension efforts across the southern U.S. This results in more efficient use of research funds and helps ensure that technology transfer occurs in an efficient and timely manner.

Advanced Spatial Technologies for Agriculture (ASTA)

There is a need to investigate site-specific technologies as they pertain to natural resource management, precision farming, agribusiness and decision making in agriculture and to produce new knowledge concerning applications of these technologies in Mississippi and the Nation.

The Advanced Spatial Technologies for Agriculture (ASTA) program coordinates efforts on site-specific technologies. As part of the ASTA program, MAFES and MSU-ES faculty are conducting research and educational programs on site specific, precision farming technologies with regard to soil fertility management; pest management strategies; yield monitoring; problems associated with drainage, irrigation, aquaculture and other environmentally sensitive issues; and economic costs and returns associated with site specific production.

Nutrient Management and Water Quality Task Force

Management of animal waste has become a major environmental issue, with serious economic consequences for poultry and livestock producers. Improper animal waste disposal can negatively affect water quality.

MAFES Scientists and MSU-ES Specialists have joined together to form a Nutrient Management and Water Quality Task Force. This task force is designed to help address both immediate and long-term problems related to nutrient management and water quality issues. The task force formulates plans of action and helps to facilitate team building to address these issues in a timely manner.

This team has helped to initiate research on the effect of nutrient management on watersheds, and have aided in the development and dissemination of best management practices to help producers deal with these issues.

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
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals

Brief explanation.

Efforts to determine economic, social, and environmental issues begin with County Extension Advisory Councils. Further needs assessment is carried out through Research and Extension Center Advisory Councils, and through formal and informal interaction with other stakeholders. Issues identified include concerns to be addressed with Extension and/or research programs.

County Extension Advisory Councils

As a formal process, key clientele meet under the leadership of county Extension professionals to review results of programs and identify key issues to be addressed in the county or area. Input comes from three different groups: the Overall Extension Advisory Council, Program Advisory Councils, and other stakeholders.

Overall Extension Advisory Councils

MSU-ES has an Overall Extension Advisory Council in each county. These advisory councils meet a minimum of two times per year to discuss programming efforts, evaluate programs, legitimize program efforts, assess needs for future programming, and identify human and financial resources needed for county programming. This group includes leaders who provide input from business, social, and economic entities as well as those who represent the needs of underserved and underrepresented clientele.

Program Advisory Councils

Program and/or commodity advisory groups in each county act as subcommittees of the overall advisory council, including people who represent the interests of agriculture, family & consumer sciences, 4-H youth, and community/rural development issues. These groups meet at least two times per year to identify specific areas of program needs, delivery and evaluation.

Other Stakeholders

MSU-ES county agents are also required to obtain information regarding clientele needs from people outside the advisory councils. They must give special attention to key community leaders and representatives of underserved populations, making sure all groups who are possible beneficiaries of MSU-ES programming efforts are included. These groups meet several times during the year to offer input and react to Extension's efforts to address key issues in the community.

Research and Extension Center Advisory Councils

MSU has four area Research and Extension Centers (Delta, Northeast, Central, and Coastal) jointly administered by MSU-ES and MAFES. These centers each have an overall advisory council where stakeholders lead discussions about programming and research efforts and assess needs at a yearly meeting. Subgroups of the advisory councils may meet several times during the year to discuss specific needs in research and extension programming.

Key Partners

MSU-ES and MAFES meet with key partners throughout the year to discuss efforts and results, coordinate activities, and set priorities. These key partners include such organizations as the Mississippi Farm Bureau, Natural Resources Conservation Service, Delta Council, Rural Development Offices, Mississippi Forestry Commission, Mississippi Department of Wildlife, Fisheries, and Parks, Mississippi Department of Agriculture and Commerce, and numerous state and regional commodity groups.

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
- Open Listening Sessions
- Needs Assessments

Brief explanation.

The collection of input from stakeholders is an ongoing process with both MSU-ES and MAFES. This was described in the previous section. Advisory committees are required to be reflective of the population of potential clientele. Listening sessions are sometimes held for the general public; others are specifically designed to reach under-served populations.

Specific needs assessments are conducted when warranted, such as the development of a new program or when an issue emerges. The soybean rust scare of the past two years is such an example. These needs assessments may include focus groups, written surveys, or face-to-face interviews with selected clientele.

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 the general public (open meeting advertised to all)
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals

Brief explanation.

Meetings with traditional stakeholder groups, the general public, and specifically with non-traditional groups are an on-going part of the needs assessment process conducted by MSU-ES and MAFES. (These are described in page 1 of this section.) Surveys of traditional stakeholder groups and non-traditional groups and individuals are conducted in specific situations. For example, this year a special needs-assessment survey was developed for women in agriculture, and a survey for county youth needs assessment was conducted by 4-H professionals in some counties.

3. A statement of how the input will be considered

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

Brief explanation.

Stakeholder input influences most aspects of this Plan of Work. Issues are identified through the needs assessment process discussed earlier. The issues help extension agents and specialists determine their plans of action, including redirecting programs to meet clientele needs. Administration must provide the resources to accomplish these changes, including setting new priorities or revising existing priorities, and hiring appropriate staff members as required to address the priorities.

This year a reduction in state budget levels led to a restructuring of research and extension organizations to better serve the needs of clientele. A series of stakeholder meetings was held to determine the best way to accomplish restructuring. This led to the creation of a cluster method of programming that will be phased in for the extension service starting in FY11.

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Agronomic Crops
2	Animal Production
3	Animal Protection
4	Aquaculture Production
5	Aquaculture Health
6	Forestry
7	Horticulture
8	Nutrient Management/Water Quality
9	Poultry
10	Wildlife and Fisheries
11	Early Care and Education
12	Family Resource Management
13	Human Health
14	Human Nutrition
15	Family Leadership Development
16	Family Life
17	Integrated Pest Management
18	Agribusiness/Risk Farm Management
19	4-H Youth Development
20	Enterprise and Community Development
21	Childhood Obesity
22	Food Safety
23	Global Food Security and Hunger
24	Climate Change
25	Sustainable Energy

V(A). Planned Program (Summary)**Program # 1****1. Name of the Planned Program**

Agronomic Crops

2. Brief summary about Planned Program

This program includes research and extension efforts related to the 3.7 million acres of row-crops produced in Mississippi each year. Primary crops grown include cotton, soybeans, corn, rice, wheat, grain sorghum, and peanuts.

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
102	Soil, Plant, Water, Nutrient Relationships	10%		5%	
111	Conservation and Efficient Use of Water	15%		5%	
132	Weather and Climate	5%		5%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		5%	
202	Plant Genetic Resources	5%		5%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	10%		10%	
204	Plant Product Quality and Utility (Preharvest)	0%		10%	
205	Plant Management Systems	30%		30%	
211	Insects, Mites, and Other Arthropods Affecting Plants	10%		10%	
212	Pathogens and Nematodes Affecting Plants	5%		5%	
213	Weeds Affecting Plants	10%		10%	
	Total	100%		100%	

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

Agronomic crops comprise one of the largest constituents of Mississippi's number one industry, agriculture. Mississippi farmers normally grow a compliment of several crops, including cotton, soybeans, corn, rice, wheat, grain sorghum and peanuts. These crops are grown on approximately 3.7 million acres and their produce is estimated at over \$1 billion annually. The economic impact of crops to Mississippi's economy accounts for several times the actual commodity values, when considering the inputs utilized to grow, harvest, store, transport, process, market and utilize them. Crop production supports numerous agricultural industries, including seed, fertilizer, chemical, equipment, storage, processing, transportation, fuel, and consulting. Cotton is the king of crops in Mississippi with an economic value of more than \$450 million and historical

top three ranking in the United States. Mississippi farmers grow around 1.24 million acres of cotton. Soybeans are grown on more land, nearly 1.5 million acres, than any other crop in Mississippi and produce a value of about \$300 million. Growers produce about \$132 million of corn on about 468,000 acres, \$102 million of rice on 250,000 acres, \$21 million of wheat on 172,000 acres, and \$10 million of grain sorghum on 58,000 acres. Mississippi growers recently increased peanut production value to \$7.6 million on 15,000 acres.

2. Scope of the Program

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

University Experiment Station and Extension Service programs provide unbiased, scientific-based expertise to our clientele. Nearly all other information outlets have considerable financial interest regarding the recommendations they provide. Thus, universities provide uniquely impartial data and ideas from which clientele can use to make sound decisions.

2. Ultimate goal(s) of this Program

Increased production levels, decreased input costs, and better environmental stewardship for agronomic crop producers.

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
2011	18.0	0.0	27.6	0.0
2012	18.0	0.0	27.6	0.0
2013	18.0	0.0	27.6	0.0
2014	18.0	0.0	27.6	0.0
2015	18.0	0.0	27.6	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

- Short courses, Workshops or Training Seminars
- Field Consultations
- Demonstration and Verification Programs
- Newsletters and Publications
- Web-based information and E-mail
- Distance Learning Programs
- Field Manuals or Guides

Farm Management Software/Components

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"> ● Education Class ● Workshop ● One-on-One Intervention ● Demonstrations | <ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● Web sites |
|--|---|

3. Description of targeted audience

The target audience for this program includes approximately 30,000 Mississippi crop producers, consultants, retail dealers and industry personnel.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	50000	180000	0	0
2012	50000	180000	0	0
2013	50000	180000	0	0
2014	50000	180000	0	0
2015	50000	180000	0	0

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	50	8	58
2012	50	8	58
2013	50	8	58
2014	50	8	58
2015	50	8	58

V(H). State Defined Outputs

1. Output Target

- Number of producers attending seminars, workshops, short courses, and demonstrations.

2011:25762 2012:25762 2013:25762 2014:25762 2015:25762

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of producers adopting new technologies, strategies, or systems.
2	Number of producers increasing production levels.
3	Number of producers decreasing production inputs/expenses.
4	Number of producers improving their environmental stewardship.

Outcome # 1

1. Outcome Target

Number of producers adopting new technologies, strategies, or systems.

2. Outcome Type : Change in Action Outcome Measure

2011:5000 2012:5000 2013:5000 2014:5000 2015:5000

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 132 - Weather and Climate
- 202 - Plant Genetic Resources
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of producers increasing production levels.

2. Outcome Type : Change in Condition Outcome Measure

2011:4000 2012:4000 2013:4000 2014:4000 2015:4000

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 202 - Plant Genetic Resources
- 205 - Plant Management Systems

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of producers decreasing production inputs/expenses.

2. Outcome Type : Change in Condition Outcome Measure

2011:4000 2012:4000 2013:4000 2014:4000 2015:4000

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 202 - Plant Genetic Resources
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 4

1. Outcome Target

Number of producers improving their environmental stewardship.

2. Outcome Type : Change in Condition Outcome Measure

2011:2000 2012:2000 2013:2000 2014:2000 2015:2000

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 132 - Weather and Climate
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants

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.)
- Appropriations changes
- Public Policy changes

- Government Regulations
- Competing Programmatic Challenges

Description

As the agronomic crops program is tied directly to agricultural production, weather extremes is the most likely external factor to affect outcomes. The next most likely factors to affect outcomes are government regulations, especially environmental regulations, and public policy changes, primarily government set-asides and production programs.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Time series (multiple points before and after program)
- Case Study

Description

Evaluation of this program will include retrospective producer surveys and case studies of selected producers. The time series analysis will include production data for selected row-crops in Mississippi.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Case Study
- Other (Production Statistics)

Description

Producer surveys will use a sample of the population. The case study and observation methods will be used with a few selected producers. Production statistics will be used for time series analysis.

V(A). Planned Program (Summary)**Program # 2****1. Name of the Planned Program**

Animal Production

2. Brief summary about Planned Program

This program addresses research and extension programming designed to enhance the animal production process, with a focus on helping beef, dairy, equine, and swine producers and industry personnel.

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 : No

V(B). Program Knowledge Area(s)**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals	15%		25%	
302	Nutrient Utilization in Animals	20%		10%	
303	Genetic Improvement of Animals	20%		10%	
304	Animal Genome	5%		10%	
305	Animal Physiological Processes	10%		5%	
306	Environmental Stress in Animals	10%		20%	
307	Animal Management Systems	15%		15%	
308	Improved Animal Products (Before Harvest)	5%		5%	
	Total	100%		100%	

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

There are 42,200 farms in Mississippi and over 20,000 of these farms are involved in livestock production. Livestock are produced in all 82 counties. The market value of livestock production at the farm gate is 390 million dollars. The total economic impact of the livestock industry is approximately 554 million dollars.

As of 2005, there were 564,000 head of beef cows in Mississippi. The estimated value of beef cattle sold in 2004 was 203 million dollars. There are approximately 18,800 beef producers in Mississippi. Eighty-one percent of these producers own herds of less than 50 cows, but comprise 41% of the total beef cow inventory. The remaining 59% of the beef cows are owned by only 19% of the producers.

On January 1, 2005, there were approximately 234 commercial Grade A dairy farms in Mississippi milking 25,000 cows. During 2004, these dairies produced 379 million pounds of milk valued at an estimated \$16.80 per hundredweight and the state's total value of milk production calculated to be \$63.7 million. Only 50 of the 230 licensed dairies in Mississippi utilize

the Dairy Herd Improvement Association (DHIA) data collection and management system to provide cow health, production, and reproductive information to dairy farmers.

In 2005, MS produced 432,875 pigs with a gross market value of \$47.5 million (National Pork Board Check-off Report). Mississippi's inventory of hogs and pigs was estimated at 375,000 head on December 1, 2005 reflecting a 19 percent increase over 2004. The number kept for breeding is estimated at 39,000, which is an 11% increase over 2004. Pigs saved per litter in 2005, averaged 8.86 compared with 8.78 during 2004. There were 1,000 farms with hogs in 2005. Total economic impact of all segments and related agribusiness of the swine industry for 2005 is estimated at \$109 million. A large percentage (estimated 85%) of MS swine production is made up of company contract production.

The equine industry in Mississippi is highly diverse and supports a wide variety of activities by combining the rural activities of breeding, training, maintaining and riding horses with the more urban activities of public stables and horse shows. It is estimated; Mississippi has 125,000 horses (MS Department of Agriculture and Commerce Publication). Horse sales are valued at \$18 million yearly. Approximately 90% of Mississippi's horses are used for pleasure and showing. The remaining 10% are used in ranch and farm work, rodeos, and police work. The equine industry utilizes the largest amount of sacked feed and baled hay.

There are approximately 2.3 million acres devoted to forage production in Mississippi. Hay is harvested on approximately 730,000 acres with an average yield of 2.9 tons per acre. The 2005 estimated value of hay production was \$110 million dollars. It is estimated that many of these acres of hay production do not receive adequate amounts of lime or fertilizer. Forage production could be increased without additional acreage by improving the management of the forage crops.

2. Scope of the Program

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

Livestock producers in general are reluctant to change management or production practices. Producers have limited time to attend educational programs. Educational programs must be designed to interest the producers to participate and convince them the information delivered is sound and economically viable. The use of multi-media technology in delivering programs can be useful in attracting producer participation however the producer must depart from the program with a sense their participation was worthwhile.

2. Ultimate goal(s) of this Program

This program should result in increased production efficiency in animal operations, improved economic return for animal producers, and overall development, growth, and improvement of the livestock industries.

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
2011	14.0	0.0	4.8	0.0
2012	14.0	0.0	4.8	0.0
2013	14.0	0.0	4.8	0.0
2014	14.0	0.0	4.8	0.0
2015	14.0	0.0	4.8	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research and Extension programs will be conducted in the following areas (and others as needed):

- Forage Testing
- Ration Recommendations
- Beef Quality Assurance
- Farm-to-Feedlot Project
- Stocker Grazing Program
- Forage Variety Evaluation Publications
- Annual Mississippi Dairy Enterprise Planning Budgets for various sizes of typical dairy operations in the state
- Workshops for dairy producers of the use and value of dairy budgets in the management of their dairy farms
- Enrollment on the Dairy Herd Improvement Assn.
- Heat Abatement Training
- DHIA herd management screening
- Statewide Dairy Field Day
- Dairy Nutrition Workshops
- Reproductive Management
- BCIA sponsored sales
- Swine Producers Extension Program
- Swine Managers Training
- Environmental Continuing Education Classes
- Dietary analyses and consultation
- Pork Quality Assurance Program
- Swine Welfare and Assurance Program

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"> ● Education Class ● Workshop ● One-on-One Intervention ● Demonstrations 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● Web sites

3. Description of targeted audience

The target audience for this program includes beef, dairy, swine, and equine producers (full- and part-time) and related industry personnel.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	29000	100000	0	0
2012	29000	100000	0	0

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2013	29000	100000	0	0
2014	29000	100000	0	0
2015	29000	100000	0	0

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	2	13	15
2012	2	13	15
2013	2	13	15
2014	2	13	15
2015	2	13	15

V(H). State Defined Outputs

1. Output Target

- Number of producers attending seminars, workshops, short courses, and demonstrations.

2011:12843 2012:12843 2013:12843 2014:12843 2015:12843

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of producers adopting new technologies, strategies, or systems.
2	Number of producers increasing production levels.
3	Number of producers decreasing production inputs/expenses.
4	Number of producers improving their environmental stewardship.

Outcome # 1

1. Outcome Target

Number of producers adopting new technologies, strategies, or systems.

2. Outcome Type : Change in Action Outcome Measure

2011:2500 2012:2500 2013:2500 2014:2500 2015:2500

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
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of producers increasing production levels.

2. Outcome Type : Change in Condition Outcome Measure

2011:2000 2012:2000 2013:2000 2014:2000 2015:2000

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of producers decreasing production inputs/expenses.

2. Outcome Type : Change in Condition Outcome Measure

2011:2000 2012:2000 2013:2000 2014:2000 2015:2000

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 4

1. Outcome Target

Number of producers improving their environmental stewardship.

2. Outcome Type : Change in Condition Outcome Measure

2011:1000 2012:1000 2013:1000 2014:1000 2015:1000

3. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems

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

Description

Prices for beef, pork, dairy, and other animal products are somewhat dependent on the local, state, and national economies. Natural disasters can affect production, particularly drought. Government regulations, particularly environmental regulations, may affect producers' ability to make a profit on these enterprises.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Time series (multiple points before and after program)
- Case Study

Description

Evaluation of this program will include retrospective producer surveys and case studies of selected producers. The time series analysis will include production data for selected animal production metrics in Mississippi.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Case Study
- Other (Production Statistics)

Description

Producer surveys will use a sample of the population. The case study and observation methods will be used with a few selected producers. Production statistics will be used for time-series analysis.

V(A). Planned Program (Summary)**Program # 3****1. Name of the Planned Program**

Animal Protection

2. Brief summary about Planned Program

This program focuses on the health and well-being of beef, dairy, equine, and swine animals reared on Mississippi farms. This program is closely related with the Animal Science/Animal Production program described elsewhere in this Plan of Work.

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
306	Environmental Stress in Animals	0%		15%	
311	Animal Diseases	40%		25%	
312	External Parasites and Pests of Animals	10%		20%	
313	Internal Parasites in Animals	10%		15%	
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	10%		20%	
315	Animal Welfare/Well-Being and Protection	30%		5%	
	Total	100%		100%	

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

Animal Health is a concern of livestock producers. From a production standpoint, animal diseases decrease economic return and pose problems associated with carcass disposal. Many producers do not have a planned annual herd health program. Health and parasite control programs can correct existing health problems and reduce potential for future difficulties. A herd health program administered at the proper time would have a positive economic impact on livestock production in Mississippi and would positively impact marketing. Other emerging issues involve food safety, animal i.d., foreign animal diseases, and the limitation of antibiotic use in livestock production. Producers should be encouraged to participate in quality assurance programs that address the on-farm HAACP concept of food safety and drug use. Preventative disease management along with production technologies such as strict bio-security protocols can assist producers with animal health issues.

Mastitis Control -- Mastitis is a disease that exists in various degrees in every dairy herd in Mississippi. Mastitis influences the cow's ability to produce milk, and negatively influences the quality of milk. Effective mastitis control and management can increase milk production, lower production costs, and improve dairy farm profitability.

2. Scope of the Program

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

Livestock producers in general are reluctant to change management or production practices. Producers have limited time to attend educational programs. Educational programs must be designed to interest the producers to participate and convince them the information delivered is sound and economically viable. The use of multi-media technology in delivering programs can be useful in attracting producer participation however the producer must depart from the program with a sense their participation was worthwhile.

2. Ultimate goal(s) of this Program

This program should result in animals and animal products from Mississippi farms being overall healthy--protected from harm and free of diseases, parasites, and toxins.

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
2011	0.5	0.0	1.0	0.0
2012	0.5	0.0	1.0	0.0
2013	0.5	0.0	1.0	0.0
2014	0.5	0.0	1.0	0.0
2015	0.5	0.0	1.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research and Extension programs will be conducted in the following areas (and others as needed):

- Forage Testing
- Ration Recommendations
- Beef Quality Assurance
- Farm-to-Feedlot Project
- Stocker Grazing Program
- Forage Variety Evaluation Publications
- Annual Mississippi Dairy Enterprise Planning Budgets for various sizes of typical dairy operations in the state
- Workshops for dairy producers of the use and value of dairy budgets in the management of their dairy farms
- Enrollment on the Dairy Herd Improvement Assn.
- Heat Abatement Training
- DHIA herd management screening
- Statewide Dairy Field Day
- Dairy Nutrition Workshops
- Reproductive Management
- BCIA sponsored sales
- Swine Producers Extension Program
- Swine Managers Training
- Environmental Continuing Education Classes

- Dietary analyses and consultation
- Pork Quality Assurance Program
- Swine Welfare and Assurance Program

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"> ● Education Class ● Workshop ● One-on-One Intervention ● Demonstrations 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● Web sites

3. Description of targeted audience

The target audience for this program includes beef, dairy, swine, and equine producers (full- and part-time) and related industry personnel.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	1500	3500	0	0
2012	1500	3500	0	0
2013	1500	3500	0	0
2014	1500	3500	0	0
2015	1500	3500	0	0

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	1	1	2
2012	1	1	2
2013	1	1	2
2014	1	1	2
2015	1	1	2

V(H). State Defined Outputs

1. Output Target

- Number of producers attending seminars, workshops, short courses, and demonstrations.

2011:800

2012:800

2013:800

2014:800

2015:800

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of producers adopting new technologies, strategies, or systems.
2	Number of producers improving overall heard health and/or protection.

Outcome # 1

1. Outcome Target

Number of producers adopting new technologies, strategies, or systems.

2. Outcome Type : Change in Action Outcome Measure

2011:150 2012:150 2013:150 2014:150 2015:150

3. Associated Knowledge Area(s)

- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 314 - Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals

- 315 - Animal Welfare/Well-Being and Protection

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of producers improving overall heard health and/or protection.

2. Outcome Type : Change in Condition Outcome Measure

2011:100 2012:100 2013:100 2014:100 2015:100

3. Associated Knowledge Area(s)

- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 314 - Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals

- 315 - Animal Welfare/Well-Being and Protection

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

External factors should have limited influence on this program. The most important factor would be natural disasters, as drought could decrease available feed stores and other natural disasters (e.g., hurricanes and tornadoes) can effect many areas of animal production.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Time series (multiple points before and after program)
- Case Study

Description

Evaluation of this program will include retrospective producer surveys and case studies of selected producers. The time series analysis will include production data for selected animal production metrics in Mississippi.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Case Study
- Other (Production Statistics)

Description

Producer surveys will use a sample of the population. The case study and observation methods will be used with a few selected producers. Production statistics will be used for time-series analysis.

V(A). Planned Program (Summary)**Program # 4****1. Name of the Planned Program**

Aquaculture Production

2. Brief summary about Planned Program

This program focuses on aquaculture production in Mississippi, which primarily consists of commercial pond-raised catfish production, with some limited production of freshwater prawns and crayfish. Mississippi produces over one-half of the catfish produced in the U.S.

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
302	Nutrient Utilization in Animals	50%		15%	
306	Environmental Stress in Animals	15%		0%	
307	Animal Management Systems	10%		75%	
308	Improved Animal Products (Before Harvest)	25%		5%	
402	Engineering Systems and Equipment	0%		5%	
	Total	100%		100%	

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

In 2003, just over 300 million kg of channel catfish were processed, representing over half the total United States aquaculture production. Catfish aquaculture has generally been a profitable and rapidly expanding industry in the southeastern United States. However, yield has not increased in recent years and profits have decreased. We will address these problems through a multidisciplinary, problem-solving approach focused on improving the efficiency of catfish production. The project will address production inefficiencies on two levels. Two objectives focus on improving traditional cultural practices. The other two objectives of this project address inefficiencies associated with traditional pond management technologies. The development of novel pond production methodologies will enhance overall production efficiency, reduce environmental impacts, and reduce water use.

Solutions to this problem are complex and multi-faceted, but improved production efficiency can decrease costs of production and thereby improve the potential for profitability. Some improvement in efficiency may be attained by improving management and culture techniques used in conventional earthen ponds. In particular, feeding efficiency is important because feeds represent about half the variable cost of catfish production. The other approach to restoring profitability is developing novel production technologies that are more cost-effective than traditional production practices. New technologies that can be applied to modify existing infrastructure and that can be adopted for a modest investment will be most helpful.

2. Scope of the Program

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

Spending on seafood by United States' consumers presently stands at over \$55 billion annually. Demand far exceeds domestic production, generating a \$7 billion dollar annual trade deficit—the third largest U.S. trade deficit after petroleum and automobiles. Increasing seafood production from wild fisheries to meet this demand and offset the deficit is not possible because most national and global wild-catch fisheries are fully exploited. The only way to close the enormous trade deficit in seafood and reduce America's dependence on foreign products is to dramatically increase domestic aquaculture production.

The channel catfish is the most important aquaculture species in the United States. In 2003, just over 300 million kg (662 million pounds) of channel catfish were processed, representing about half the total United States aquaculture production. Demand for farm-raised catfish is strong, with record processing years in both 2002 and 2003. Over 95% of channel catfish aquaculture occurs in four states (Mississippi, Alabama, Arkansas, and Louisiana) located in the southeastern United States. Mississippi is by far the leading channel catfish producing state and accounts for over 70% of the total production.

Channel catfish aquaculture became an identifiable commercial activity in about 1965, and began to expand at a rapid rate in the 1970s. From 1970 to 2000, improvements in production technology resulted in a consistent trend of increasing per-ha yields of catfish. Major technological advances responsible for improved yields included formulation and refinement of high-performance diets and improved aeration technology. However, per-ha yield has not increased in recent years and, particularly in the last 2 years, profits have decreased alarmingly as rising production costs are compounding historically low prices paid to farmers. Many producers experienced financial losses in 2002, and a few ceased operation, sold out, or converted farms to other uses. Although long-term demand for catfish is forecast to remain very strong, many catfish farms are not profitable at current price levels. The steady expansion of the catfish industry for the past 40 years may be threatened by this combination of low prices and competition from lower-priced imports.

2. Ultimate goal(s) of this Program

This program is focused on improving production efficiency which, if attained, will improve the profitability of channel catfish farming.

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
2011	2.0	0.0	5.0	0.0
2012	2.0	0.0	5.0	0.0
2013	2.0	0.0	5.0	0.0
2014	2.0	0.0	5.0	0.0
2015	2.0	0.0	5.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Develop feeds and feeding practices for optimal nutrition, increased production, and improved water quality of pond-raised catfish.

Increase the reliability, efficiency, and cost-effectiveness of catfish fry production through the use of new and improved technologies.

Apply engineering approaches to design new or modified harvesting equipment.

Increase reliability, efficiency, and cost-effectiveness of catfish production through the use of new and improved culture system technologies.

Researchers will develop referred journal articles and give scientific presentations at professional societies and at producer meetings.

Extension specialists will conduct workshops and seminar programs. Extension publications and newsletters will aid in transferring new knowledge to producers. Farm visits will help producers adapt new procedures on farms.

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"> • Education Class • Workshop • One-on-One Intervention 	<ul style="list-style-type: none"> • Newsletters • Web sites

3. Description of targeted audience

The target audience for this program includes producers of catfish, crayfish, and freshwater prawns, and related industry personnel.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	1500	3500	0	0
2012	1500	3500	0	0
2013	1500	3500	0	0
2014	1500	3500	0	0
2015	1500	3500	0	0

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	8	2	10
2012	8	2	10
2013	8	2	10
2014	8	2	10
2015	8	2	10

V(H). State Defined Outputs

1. Output Target

- Number of producers attending seminars, workshops, short courses, and demonstrations.

2011:453

2012:453

2013:453

2014:453

2015:453

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of producers adopting new technologies, strategies, or systems.
2	Number of producers improving production efficiency.
3	Number of producers improving their environmental stewardship.

Outcome # 1

1. Outcome Target

Number of producers adopting new technologies, strategies, or systems.

2. Outcome Type : Change in Action Outcome Measure

2011:100 2012:100 2013:100 2014:100 2015:100

3. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of producers improving production efficiency.

2. Outcome Type : Change in Action Outcome Measure

2011:80 2012:80 2013:80 2014:80 2015:80

3. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of producers improving their environmental stewardship.

2. Outcome Type : Change in Action Outcome Measure

2011:40

2012:40

2013:40

2014:40

2015:40

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Public Policy changes

Description

The farmer's profit on the sale of catfish hopefully will increase in the future. However, national policy encourages foreign trade and imports. Consumers in the United States demand low-priced food. Producing aquaculture products more efficiently through improvements in existing culture techniques (feeding and fertilization practices) or adoption of novel culture methods will improve the ability of U.S. farmers to compete in the new global economy regardless of seafood prices. Government controls of inferior, imported fish products will be important.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- Time series (multiple points before and after program)
- Case Study

Description

Evaluation of this program will include retrospective producer surveys and case studies of selected producers. The time series analysis will include production data for catfish production in Mississippi.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Case Study
- Other (Production Statistics)

Description

Producer surveys will use a sample of the population. The case study methods will be used with a few selected producers. Production statistics will be used for the time series analysis.

V(A). Planned Program (Summary)**Program # 5****1. Name of the Planned Program**

Aquaculture Health

2. Brief summary about Planned Program

This program is focused on animal health management, especially catfish health management, as health is one of the primary factors that limits production efficiency.

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
311	Animal Diseases	35%		85%	
312	External Parasites and Pests of Animals	15%		0%	
313	Internal Parasites in Animals	15%		10%	
315	Animal Welfare/Well-Being and Protection	35%		5%	
	Total	100%		100%	

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

Commercial catfish production takes place in 13 states, but is concentrated in the Mid-South Area, particularly the Delta region of northwest Mississippi. Taken as a whole, in 2003 the industry produced 300 million kilograms of foodsize fish, valued at approximately \$400 million. However, the overall economic impact of U.S. commercial catfish production vastly exceeds this figure. The Mississippi industry is composed of roughly 400 farms encompassing 45,000 hectares of water and employs approximately 7000 workers. Mississippi accounts for approximately 60% of total foodsize fish production and is also the largest producer of fingerling "seed-stock." When ancillary service industries are considered, the Mississippi industry contributes approximately \$2 billion to the well-being of this economically depressed region.

Despite increased production, profitability of the catfish industry is declining. Since its inception more than 40 years ago, disease-related losses have represented a major impediment to economic viability. In the last decade losses from infectious and environmental diseases have escalated as culture practices have become more intensive and the incidence of recognized diseases has been amplified within relatively closed populations of cultured fish. There has also been an emergence of several previously unknown disease entities. It is estimated that disease-related mortalities account for approximately 45-50% of all losses incurred on farms and may account for as much as \$100 million annually in direct economic impact. In the past 3 years, decreased production efficiency resulting from disease, in conjunction with historically low fish prices, competition with foreign imports, and rising feed costs has forced approximately 20% of farm acreage out of production. Without substantial improvements in fish health management and production efficiency, the future of commercial catfish farming will remain in jeopardy.

All research conducted under this agreement will address practical, production-oriented problems facing the farm-raised catfish industry in the southeastern United States within the broad subject areas described above. Specifically, the work will focus on molecular disease diagnostics, elucidation of bacterial virulence factors, the relationship between management practices and disease, characterization of new and emerging diseases, and surveillance for diseases of undetermined etiology. The program will apply a multidisciplinary approach to addressing industry needs through basic and applied research, technology transfer through the Extension system, as well as provide a clinical diagnostic service and field investigation capability.

2. Scope of the Program

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

Without substantial improvements in fish health management and production efficiency, the future of commercial catfish farming will remain in jeopardy.

2. Ultimate goal(s) of this Program

Establish new effective measures for the early detection, prevention, and treatment of disease and have producers implementing these measures.

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
2011	0.4	0.0	0.7	0.0
2012	0.4	0.0	0.7	0.0
2013	0.4	0.0	0.7	0.0
2014	0.4	0.0	0.7	0.0
2015	0.4	0.0	0.7	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Develop diagnostic tools to detect and monitor diseases in commercially raised channel catfish and determine virulence factors associated with those diseases.

Develop fish health management procedures to control economically important diseases of channel catfish.

Determine factors associated with emerging diseases in pond-raised channel catfish.

Use epidemiological methods to investigate new and emerging diseases, and to identify environmental and management factors that influence the onset and severity of disease outbreaks.

Researchers will develop referred journal articles and give scientific presentations at professional societies and at producer meetings.

Extension specialists will conduct workshops and seminar programs. Extension publications and newsletters will aid in

transferring new knowledge to producers. Farm visits will help producers adapt new procedures on farms.

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"> • Education Class • Workshop • One-on-One Intervention • Demonstrations 	<ul style="list-style-type: none"> • Newsletters • Web sites

3. Description of targeted audience

The target audience for this program is producers of catfish, crayfish, and freshwater prawns and related industry personnel.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	100	1200	0	0
2012	100	1200	0	0
2013	100	1200	0	0
2014	100	1200	0	0
2015	100	1200	0	0

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	1	1
2012	0	1	1
2013	0	1	1
2014	0	1	1
2015	0	1	1

V(H). State Defined Outputs

1. Output Target

- Number of producers attending seminars, workshops, short courses, and demonstrations.

2011:100

2012:100

2013:100

2014:100

2015:100

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of producers adopting new technologies, strategies, or systems.
2	Number of producers improving fish health management production efficiency.

Outcome # 1

1. Outcome Target

Number of producers adopting new technologies, strategies, or systems.

2. Outcome Type : Change in Action Outcome Measure

2011:40 2012:40 2013:40 2014:40 2015:40

3. Associated Knowledge Area(s)

- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of producers improving fish health management production efficiency.

2. Outcome Type : Change in Condition Outcome Measure

2011:30 2012:30 2013:30 2014:30 2015:30

3. Associated Knowledge Area(s)

- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Government Regulations
- Competing Programmatic Challenges

Description

In general, progress in the area of disease control is limited by a poor understanding of the pathogenesis of the major disease entities, limited diagnostic tools to detect and monitor specific pathogens in fish and the

environment, inadequate knowledge of the relationships between management practices and other risk factors associated with disease outbreaks, and a lack of disease challenge models duplicating typical field conditions. In addition, there is a paucity of chemical agents, antibiotics, and vaccines approved or under development for use in disease treatment and prevention. Furthermore, access to diagnostic services and outlets for the dissemination of information generated by research efforts to producers is limited.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Case Study

Description

Evaluation of this program will include retrospective producer surveys and case studies of selected producers designed to determine the extent to which producers are using the Fish Health Monitoring Program and other Best Management Practices.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Case Study
- Observation

Description

Producer surveys will use a sample of the population. The case study and observation methods will be used with a few selected producers.

V(A). Planned Program (Summary)**Program # 6****1. Name of the Planned Program**

Forestry

2. Brief summary about Planned Program

This program includes research and extension efforts in forestry, including forest production and management, forest recovery, timber harvesting, and environmental stewardship.

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
122	Management and Control of Forest and Range Fires	20%		0%	
123	Management and Sustainability of Forest Resources	45%		10%	
124	Urban Forestry	10%		10%	
125	Agroforestry	15%		15%	
133	Pollution Prevention and Mitigation	10%		10%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		35%	
211	Insects, Mites, and Other Arthropods Affecting Plants	0%		10%	
511	New and Improved Non-Food Products and Processes	0%		10%	
	Total	100%		100%	

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

Mississippi's forest industry (including private landowners, independent harvesters and forest industry) harvests and delivers about \$1.25 billion worth of forest products to mills and other processors each year. Timber generally ranks as the first or second most valuable agricultural commodity in the state, usually second behind only poultry and eggs production. About 61 percent of Mississippi's land is in forest production. This is about 18.5 million acres according to the latest forest survey taken in 1994. The total industry output of Mississippi's forest products industry is around \$11.4 billion annually.

2. Scope of the Program

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

Forestry will continue to be a major commodity in Mississippi. Since pine sawtimber now makes up about 90 percent of the market, prices for this commodity will have a big impact on the profitability of forest production.

2. Ultimate goal(s) of this Program

To increase the profitability of forest production and improve the environmental stewardship of forest landowners.

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
2011	13.0	0.0	0.9	0.0
2012	13.0	0.0	0.9	0.0
2013	13.0	0.0	0.9	0.0
2014	13.0	0.0	0.9	0.0
2015	11.0	0.0	0.9	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research will be conducted in forest production and management, timber harvesting, forest recovery, and environmental impacts of forest practices. Extension programming will be conducted to share this information with forest landowners and industry personnel.

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"> ● Education Class ● Workshop ● One-on-One Intervention ● Demonstrations ● Other 1 (Interactive Video) 	<ul style="list-style-type: none"> ● Newsletters ● Web sites

3. Description of targeted audience

The audience for this program includes forest landowners and industry personnel.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	35200	54500	0	0
2012	35200	54500	0	0
2013	35200	54500	0	0
2014	35200	54500	0	0
2015	35200	54500	0	0

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

2011:0

2012:0

2013:0

2014:0

2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	3	2	5
2012	3	2	5
2013	3	2	5
2014	3	2	5
2015	3	2	5

V(H). State Defined Outputs

1. Output Target

- Number of producers and industry attending seminars, workshops, short courses, and demonstrations.

2011:11039

2012:11039

2013:11039

2014:11039

2015:11500

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of timber producers adopting new technologies and practices.
2	Number of forest producers increasing profitability of their forest operations.
3	Number of producers improving their environmental stewardship.

Outcome # 1

1. Outcome Target

Number of timber producers adopting new technologies and practices.

2. Outcome Type : Change in Action Outcome Measure

2011:2000 2012:2000 2013:2000 2014:2000 2015:2000

3. Associated Knowledge Area(s)

- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 125 - Agroforestry
- 133 - Pollution Prevention and Mitigation

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of forest producers increasing profitability of their forest operations.

2. Outcome Type : Change in Condition Outcome Measure

2011:1600 2012:1600 2013:1600 2014:1600 2015:1600

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 125 - Agroforestry

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of producers improving their environmental stewardship.

2. Outcome Type : Change in Condition Outcome Measure

2011:800

2012:800

2013:800

2014:800

2015:800

3. Associated Knowledge Area(s)

- 122 - Management and Control of Forest and Range Fires
- 133 - Pollution Prevention and Mitigation

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.)
- Appropriations changes
- Government Regulations
- Competing Programmatic Challenges

Description

Natural disasters, particularly hurricanes and tornadoes, are particularly harsh on forest holdings. The effects of Hurricane Katrina have had, and will continue to have a significant impact on outreach efforts and directions for years to come. Policy changes, especially regarding importing of cheap timber from other countries, can have a big impact on the industry. Government regulations, especially regarding environmental issues, can increase production and harvesting costs.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Time series (multiple points before and after program)
- Case Study

Description

Evaluation of this program will include retrospective producer surveys and case studies of selected producers. The time series analysis will include production data for forest crops in Mississippi.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Case Study
- Observation

Description

Producer surveys will use a sample of the population. The case study and observation methods will be used with a few selected producers. Production statistics will be used for time series analysis.

V(A). Planned Program (Summary)**Program # 7****1. Name of the Planned Program**

Horticulture

2. Brief summary about Planned Program

This program includes research and extension efforts focused on helping producers, manufacturers, suppliers, managers, and consumers involved in the \$2.3 billion horticulture industry in Mississippi, including vegetable and fruit production, turf, floriculture, and the ornamental nursery industries.

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
102	Soil, Plant, Water, Nutrient Relationships	15%		15%	
204	Plant Product Quality and Utility (Preharvest)	15%		15%	
205	Plant Management Systems	60%		60%	
601	Economics of Agricultural Production and Farm Management	10%		10%	
	Total	100%		100%	

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

The horticulture industry in Mississippi, composed of producers, manufacturers, suppliers, managers, and consumers, encompasses vegetable and fruit production, turf, floriculture, and the ornamental nursery industries. Together, these components were valued at over \$2.3 billion in 2005: vegetables (\$71 million), turf (\$2.2 billion), floriculture and ornamentals (\$31million), and fruits and nuts (\$10 million). The majority of these firms (2,000+) are small family farms or family owned businesses, employing a total of over 25,000 people. Allied industries such as retail garden centers, landscape contracting, roadside and direct marketing, and consumer purchasing are not reflected in these figures. Homeowner education is a major component of Mississippi State University Extension Service's horticulture efforts. Inconsistent production, due to weather or poor production practices, prevents consistent marketing. In order to obtain a consistent supply of quality product growers need to be informed about research-based, successful production and marketing practices.

All areas of horticulture share similar research needs. Site selection, cultivar evaluations, and marketing strategies are common research areas. Mississippi has three distinct climatic zones that preclude single site evaluations of production practices. Several factors must be employed in research and extension. These include the development of applicable and environmentally sound production and maintenance practices; selection and development of cultivars suitable under Mississippi's environmental conditions; research, development, and distribution of cultural recommendations; and, at the state level, the encouragement of economic development in this area.

Producers, manufacturers, suppliers, and managers of horticultural products require a comprehensive research program involving all aspects of production practices with emphasis on Mississippi's environment. These include: reducing pesticide use via integrated pest management, nutrient management, cold hardiness, heat stress management, plant evaluations,

plant growth regulation, propagation, and water quality.

Cost and production analysis of the state's industry to determine the scope and impact on the state's economy is being done, but more is needed. Information on cost analysis and financial management are critical to management decisions.

2. Scope of the Program

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

Producers are working smarter to increase profitability. Increased interest in marketing skills has led to a more market wise industry. Energy efficiency has become a more pressing issue and has led to more emphasis on local markets. "Newer is better" leads to increased use of proprietary cultivars, input chemistry and equipment.

2. Ultimate goal(s) of this Program

Increasing the profitability of horticulture production and reducing the environmental impact of horticultural production.

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
2011	20.0	0.0	3.5	0.0
2012	20.0	0.0	3.5	0.0
2013	20.0	0.0	3.5	0.0
2014	20.0	0.0	3.5	0.0
2015	20.0	0.0	3.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research and extension activities designed to

1. Increase producer profitability by promoting cultural practices that are research based.
2. Improve marketing of horticultural crops.
3. Determine producer needs via interaction with commodity groups, grower meetings, advisory councils, etc.
4. Reduce economic and environmental impact of chemicals by implementing integrated pest management techniques in commercial production.
5. Increase production efficiency by decreasing labor requirements, i.e. mechanization, automation, etc.
6. Continue selection of appropriate varieties for local environments in Mississippi.

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

Extension

Direct Methods	Indirect Methods
-----------------------	-------------------------

- Workshop
- Group Discussion
- One-on-One Intervention
- Demonstrations

- Public Service Announcement
- Newsletters
- Web sites

3. Description of targeted audience

The target audience includes producers, manufacturers, suppliers, managers, and consumers, within the vegetable and fruit production, turf, floriculture, and ornamental nursery industries.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	57600	88000	0	0
2012	57600	88000	0	0
2013	57600	88000	0	0
2014	57600	88000	0	0
2015	57600	88000	0	0

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	5	4	9
2012	5	4	9
2013	5	4	9
2014	5	4	9
2015	5	4	9

V(H). State Defined Outputs

1. Output Target

- Number of clientele attending seminars, workshops, short courses, and demonstrations.

2011:26201 2012:26201 2013:26201 2014:26201 2015:26200

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of clientele adopting new technologies, strategies, systems, or cultivars.
2	Number of producers increasing profitability levels.
3	Number of clientele improving their environmental stewardship.

Outcome # 1

1. Outcome Target

Number of clientele adopting new technologies, strategies, systems, or cultivars.

2. Outcome Type : Change in Action Outcome Measure

2011:5000 2012:5000 2013:5000 2014:5000 2015:5000

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of producers increasing profitability levels.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:4000 2012:4000 2013:4000 2014:4000 2015:4000

3. Associated Knowledge Area(s)

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of clientele improving their environmental stewardship.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:2000

2012:2000

2013:2000

2014:2000

2015:2000

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 205 - Plant 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
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges

Description

Total staffing and fiscal support for horticulture has declined over the past five years. Budget restraints have altered the delivery methods for extension dissemination of information. Increased use of Internet, email, distance education, and other technologies has broadened communication avenues at the cost of interpersonal relationships between clientele and extension personnel. Demographic shifts and population growth, hurricane damage, and increased disposable income have increased the demand for consumer information.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Time series (multiple points before and after program)
- Case Study

Description

Evaluation of the program will include retrospective producer/clientele surveys and case studies of selected producers. The time series analysis will include production data for selected horticulture crops in Mississippi.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Case Study
- Observation

Description

Producer/clientele surveys will use a sample of the population. The case study and observation methods will be used with a few selected producers. Production statistics will be used for time series analysis.

V(A). Planned Program (Summary)**Program # 8****1. Name of the Planned Program**

Nutrient Management/Water Quality

2. Brief summary about Planned Program

This program focuses on water (quality, use, and conservation) as it relates to production agriculture, with an emphasis on proper disposal of agricultural wastes, including pesticides, solid animal wastes, and other waste products.

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 : No

V(B). Program Knowledge Area(s)**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	20%		10%	
111	Conservation and Efficient Use of Water	15%		10%	
112	Watershed Protection and Management	0%		15%	
133	Pollution Prevention and Mitigation	0%		10%	
401	Structures, Facilities, and General Purpose Farm Supplies	10%		15%	
402	Engineering Systems and Equipment	15%		15%	
403	Waste Disposal, Recycling, and Reuse	15%		15%	
404	Instrumentation and Control Systems	10%		5%	
405	Drainage and Irrigation Systems and Facilities	15%		5%	
	Total	100%		100%	

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

Agriculture is one of Mississippi's most important industries. Mississippi is among the nation's leaders in broiler production, and other animal agriculture enterprises such as swine, beef and dairy cattle, constitute an important segment of the state's agricultural production. Row crop agriculture, including predominantly cotton, soybeans and corn, and other crops such as rice and wheat are other major crops produced in the state.

Issues associated with nutrient management and water - including water quality, water use and water conservation - continue to be important focus areas of research and Extension education programs. Proper disposal of agricultural wastes such as waste pesticides, solid wastes and other waste products are other important issues among agricultural producers. Research and education programs are targeted toward agricultural producers to address potential water quality and environmental impacts associated with nutrient management, animal and row crop production, as well as reach other

rural audiences potentially impacted by agricultural production.

Both internal and external linkages are employed to reach research and education program objectives. Internal linkages include integrated, multi-disciplinary approaches through multi-departmental efforts. Externally, multi-institutional and multi-state linkages are maintained with agricultural support groups and agencies, 1890 institutions, state environmental and water quality agencies, multi-state water quality agencies, and other linkages in Mississippi, the region and nationally.

Stakeholders and customers of research and Extension programs represent a broad section of audiences, including agricultural producers and other rural audiences, agricultural support groups, environmental and water quality agencies, consumers, and traditionally under-served groups. These stakeholders are accessed through direct linkages, mass media, special influence groups and other methods.

2. Scope of the Program

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

Two primary assumptions are integral to this plan: (1) the participating entities (Extension and research) are equipped to conduct the research pertinent to the plan and effectively deliver its components to the targeted audiences; and (2) the targeted audiences are in a position to and are willing to implement the particular components of the plan.

2. Ultimate goal(s) of this Program

To change agricultural production practices to reduce the potential impact of agricultural operations on water quality and the environment.

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
2011	2.0	0.0	1.5	0.0
2012	2.0	0.0	1.5	0.0
2013	2.0	0.0	1.5	0.0
2014	2.0	0.0	1.5	0.0
2015	2.0	0.0	1.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Varied activities, services and products are anticipated as a result of this plan. These include formation of state and regional advisory groups, assignment of work groups to address specific issues and tasks associated with nutrient management and water quality, participation of targeted audiences such as agricultural producers in environmental education programs, development of publications, fact sheets, web pages and other educational materials as program support, and reporting documents. Specific programs targeted toward agricultural producers in this plan include environmental stewardship programs, waste pesticide collection and disposal programs, recycling and solid waste management programs, and other initiatives related to water quality and nutrient management.

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"> • Workshop • Group Discussion • One-on-One Intervention • Demonstrations 	<ul style="list-style-type: none"> • Public Service Announcement • Newsletters • Web sites

3. Description of targeted audience

Stakeholders and customers of research and Extension programs represent a broad section of audiences, including agricultural producers and other rural audiences, agricultural support groups, environmental and water quality agencies, consumers, and traditionally under-served groups.

V(G). Planned Program (Outputs)**1. Standard output measures**

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	2500	1650	0	0
2012	2500	1650	0	0
2013	2500	1650	0	0
2014	2500	1650	0	0
2015	2500	1650	0	0

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

2011:0

2012:0

2013:0

2014:0

2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	2	4	6
2012	2	4	6
2013	2	4	6
2014	2	4	6
2015	2	4	6

V(H). State Defined Outputs

1. Output Target

- Number of producers attending seminars, workshops, short courses, and demonstrations.

2011:700

2012:700

2013:700

2014:700

2015:700

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of producers adopting new technologies, strategies, or systems.
2	Number of producers improving their environmental stewardship.

Outcome # 1

1. Outcome Target

Number of producers adopting new technologies, strategies, or systems.

2. Outcome Type : Change in Action Outcome Measure

2011:125 2012:125 2013:125 2014:125 2015:125

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 404 - Instrumentation and Control Systems
- 405 - Drainage and Irrigation Systems and Facilities

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of producers improving their environmental stewardship.

2. Outcome Type : Change in Condition Outcome Measure

2011:50 2012:50 2013:50 2014:50 2015:50

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 404 - Instrumentation and Control Systems
- 405 - Drainage and Irrigation Systems and Facilities

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

Many potential factors may affect the implementation and success of this plan. Among these are changing political climates and priorities, changing internal policies and priorities, potentially conflicting interests of stakeholders and customers, the impact of natural disasters such as hurricanes, floods and tornadoes and the resulting changes in priorities, and funding limitations.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Time series (multiple points before and after program)
- Case Study

Description

Evaluation of this program will include retrospective producer surveys and case studies of selected producers. The time series analysis will include water quality statistics.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Case Study
- Observation

Description

Producer surveys will use a sample of the population. The case study and observation methods will be used with a few selected producers.

V(A). Planned Program (Summary)**Program # 9****1. Name of the Planned Program**

Poultry

2. Brief summary about Planned Program

This program describes university extension and research efforts to aid producers in increasing poultry production efficiency, health and quality of marketed products.

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 : No

V(B). Program Knowledge Area(s)**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals	10%		10%	
302	Nutrient Utilization in Animals	10%		45%	
305	Animal Physiological Processes	10%		10%	
306	Environmental Stress in Animals	10%		10%	
307	Animal Management Systems	10%		5%	
308	Improved Animal Products (Before Harvest)	10%		0%	
311	Animal Diseases	10%		10%	
312	External Parasites and Pests of Animals	10%		0%	
313	Internal Parasites in Animals	10%		0%	
315	Animal Welfare/Well-Being and Protection	10%		10%	
	Total	100%		100%	

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

The commercial poultry industry continues to expand as consumers increasingly demand high quality, affordable poultry products. To meet this growing demand, poultry producers have historically relied heavily on university extension and research personnel to aid them in increasing poultry production efficiency, health and quality of marketed products. Increases in production have largely been attained by increasing the size of poultry operations to take advantage of economy of scale principles. As poultry operations become larger to increase efficiencies and remain economically viable, the potential for negative environmental impacts and unfavorable public perception is increased.

Air emissions (ammonia, dust, and odor) from poultry production facilities is currently and will continue to be an important issue for poultry producers. Economically feasible methods to reduce the generation of air contaminants and

mitigate emissions need to be developed and implemented. Projects to improve the use trees and other plant barriers to mitigate environmental impact will be investigated. Other methods to improve the utilization of nutrients, such as composting, need to be expanded to preserve water quality in poultry production areas. Due to rising energy costs and concerns regarding global warming from increased use of fossil fuels, strategies to reduce energy consumption in poultry housing through improved design, operation and ventilation will be investigated. In addition, practices to improve drinking water quality and management to growing poultry need to be developed and emphasized. Poor water quality can contribute to excess moisture problems in poultry housing, leading to increased ammonia and odor generation. Measures to prevent disease, reduce animal stress and improve animal welfare are issues of continuing concern requiring constant improvement. To accomplish all of these goals, cooperation with personnel with additional expertise in engineering, chemistry, nutrition, and soil and water sciences will be needed.

Improvements in poultry housing operation and nutrient utilization and reduced environmental impact will help to assure the sustainability of commercial poultry operations in Mississippi. Poultry production is important to the economies of many rural areas of the state. In 2005, 763 million broilers were grown on approximately 2,000 farms in Mississippi, with a farm value in excess of \$2 billion. Broilers are slaughtered and further processed in 20 plants in Mississippi. In 2000, poultry firms operating in Mississippi directly employed almost 19,000 people.

2. Scope of the Program

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

It is expected that adoption of new practices will be slow. As with any industry, the benefits and economic feasibility of new technologies must be proven before widespread adoption can occur.

2. Ultimate goal(s) of this Program

The goal of this program is to increase poultry production efficiency, health and quality of marketed products

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
2011	1.0	0.0	2.0	0.0
2012	1.0	0.0	2.0	0.0
2013	1.0	0.0	2.0	0.0
2014	1.0	0.0	2.0	0.0
2015	1.0	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Extension personnel will communicate with poultry producers and the general public through seminars, workshops, and extension bulletins and newsletters distributed in paper copy and electronically via the internet. Field demonstrations may also be required to encourage acceptance of new practices and methodologies. Results of research projects may also be published in peer-reviewed scientific journals. Research disseminated to the stakeholders will consist of, but is not limited to, the following:

-

- Flock hatchability and fertility
- Male broiler breeder viability measurements
- Dietary and managerial regimes to decrease layer Mycoplasma infections
- Optimizing early chick performance through: broiler and breeder nutrition, embryo physiological assessment, incubation management, and physiological assessment
- Applied nutrition with feed additives and alternative feed ingredients
- Ammonia management in broiler houses: minimization of nitrogen input, ammonia chemical modification and capture, and ammonia impacts on bird performance
- Minimization of physiological stress in broilers and layers
- Understanding broiler intestinal microorganisms and their role in nutrient utilization and disease
- Identification of physiological responses associated with poultry welfare.

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"> • Workshop • Group Discussion • One-on-One Intervention • Demonstrations 	<ul style="list-style-type: none"> • Public Service Announcement • Newsletters • Web sites

3. Description of targeted audience

The target audience for this program consists of commercial poultry producers and related industry personnel.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	712	1210	0	0
2012	712	1210	0	0
2013	712	1210	0	0
2014	712	1210	0	0
2015	800	1210	0	0

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

2011:0**2012:0****2013:0****2014:0****2015:0****3. Expected Peer Review Publications**

Year	Research Target	Extension Target	Total
2011	3	1	4
2012	3	1	4
2013	3	1	4
2014	3	1	4
2015	3	1	4

V(H). State Defined Outputs**1. Output Target**

- Number of producers attending seminars, workshops, short courses, and demonstrations.

2011:176**2012:176****2013:176****2014:176****2015:200**

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of producers adopting new technologies, strategies, or systems.
2	Number of producers increasing production efficiency.
3	Number of producers reducing the environmental impact of production.

Outcome # 1**1. Outcome Target**

Number of producers adopting new technologies, strategies, or systems.

2. Outcome Type : Change in Action Outcome Measure

2011:50 2012:50 2013:50 2014:50 2015:50

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2**1. Outcome Target**

Number of producers increasing production efficiency.

2. Outcome Type : Change in Condition Outcome Measure

2011:40 2012:40 2013:40 2014:40 2015:40

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of producers reducing the environmental impact of production.

2. Outcome Type : Change in Condition Outcome Measure

2011:40	2012:40	2013:40	2014:40	2015:40
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3. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 307 - Animal Management Systems

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 Programmatic Challenges

Description

Many factors can influence the success and profitability of poultry producers. Inclement weather and storms, such as hurricanes, can have devastating effects on poultry facilities and production. Economic factors such as feed, energy, transportation and product market prices can determine if producers will be willing or able to invest in new systems and technologies. Market demand and prices can also be affected by consumer fears regarding safety of poultry products; for example, fears about contamination with pathogenic bacteria or avian influenza. Recent publicity from animal welfare advocates have also swayed consumer concerns and demands regarding methods used to rear and process poultry

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Time series (multiple points before and after program)
- Case Study

Description

Evaluation of this program will primarily use retrospective producer surveys and case studies of selected producers. The time series analysis will include production statistics for poultry production in Mississippi.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Case Study
- Observation

Description

Producer surveys will be conducted using a sample of the population. The case study and observation methods will be used with a few selected producers. Production statistics will be used for the time series analysis.

V(A). Planned Program (Summary)**Program # 10****1. Name of the Planned Program**

Wildlife and Fisheries

2. Brief summary about Planned Program

This program focuses on wildlife habitat management, wildlife enterprise development, and management of human-wildlife conflicts.

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
131	Alternative Uses of Land	0%		10%	
135	Aquatic and Terrestrial Wildlife	30%		20%	
136	Conservation of Biological Diversity	15%		5%	
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	5%		0%	
312	External Parasites and Pests of Animals	0%		25%	
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	5%		0%	
502	New and Improved Food Products	0%		15%	
604	Marketing and Distribution Practices	0%		15%	
605	Natural Resource and Environmental Economics	30%		0%	
722	Zoonotic Diseases and Parasites Affecting Humans	5%		5%	
903	Communication, Education, and Information Delivery	10%		5%	
	Total	100%		100%	

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

Mississippi is rich in wildlife and fisheries resources that are important to its heritage, culture and economic well-being. State residents and non-residents aged 16 years and older spend approximately \$2 billion in consumptive and non-consumptive wildlife-related recreation. Over 600,000 Mississippians (16 years or older) fish, hunt or watch wildlife. Most of Mississippi is either privately owned or industrial forest or agricultural land with a high potential for fish and wildlife production and management. Many landowners do not know how to manage their land properly for different species of these resources,

and need current research-based information. Much of the state's 18.2 million acres of commercial and private forestland, 225,000 acres of small impoundments, 14,205 miles of streams and rivers, and 13 million acres of agricultural open lands is not managed for wildlife/fisheries. Additionally, opportunities for quality recreational experiences and/or additional revenue generation through development of wildlife/fisheries related enterprises exist on Mississippi land bases for property owners and resource stakeholders.

Sociological and demographic changes associated with increased urbanization and changing lifestyles, coupled with greater public demand for enjoyment of wildlife and fisheries resources, have led to new dilemmas in conservation issues, as well as user conflicts. These dilemmas are frequently compounded by increased public awareness and involvement in issues such as endangered/threatened species conservation, traditional hunting/fishing activities, environmental stewardship and quality of life, wildlife/fisheries population management, ecosystem restoration and habitat management, and agricultural and agroforestry intensification.

To address current and future challenges in wildlife and fisheries management, Mississippians need accurate and reliable information. This need can be met through well-designed and executed research, combined with pro-active, client-driven extension programming.

2. Scope of the Program

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

The following assumptions are made regarding this program:

- The public of Mississippi needs the guidance of wildlife & fisheries professionals to address past, current, and emerging issues

A need exists for continuing education among professionals who manage wildlife & fisheries populations. NIP landowners in the Southeast are interested in ways to diversify family incomes from agriculture and forestry. Demand for quality outdoor recreation continues to expand on a national and worldwide basis and sporting clientele are exploring potential experiences in the Southeast. A need exists for continuing education among wildlife professionals who must manage human-wildlife conflicts. A need exists for continuing education among non-wildlife professionals who must sometimes address human-wildlife conflicts.

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The most significant niche for this program is to provide direct educational services to professionals, not the general public.

2. Ultimate goal(s) of this Program

The ultimate goal for this program is to increase the enjoyment and profitability of human and wildlife interactions in Mississippi.

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
2011	7.0	0.0	0.5	0.0
2012	7.0	0.0	0.5	0.0
2013	7.0	0.0	0.5	0.0
2014	7.0	0.0	0.5	0.0
2015	7.0	0.0	0.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

In-state and multistate research and extension activities will be carried out related to wildlife habitat management, wildlife enterprise development, and human-wildlife conflicts.

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"> • Workshop • Group Discussion • One-on-One Intervention • Demonstrations 	<ul style="list-style-type: none"> • Public Service Announcement • Newsletters • Web sites

3. Description of targeted audience

The target audience for this project consists of most Mississippians, including those who hunt, fish, and watch wildlife, those who interact with wildlife and work and home, and those who work in related industries and professions.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	24000	10000	0	0
2012	24000	10000	0	0
2013	24000	10000	0	0
2014	24000	10000	0	0
2015	24000	10000	0	0

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	4	2	6
2012	4	2	6
2013	4	2	6
2014	4	2	6
2015	4	2	6

V(H). State Defined Outputs

1. Output Target

- Number of clientele attending seminars, workshops, short courses, and demonstrations.

2011:4000 2012:4000 2013:4000 2014:4000 2015:4000

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of clientele adopting recommended wildlife habitat improvement practices.
2	Number of wildlife professionals improving their skills in handling wildlife damage issues.
3	Number of non-industrialized, private landowners initiating wildlife-related enterprises.
4	Number of landowners reporting improved wildlife conservation due to management practices.
5	Number of clientele reporting increased income levels due to wildlife enterprises.

Outcome # 1

1. Outcome Target

Number of clientele adopting recommended wildlife habitat improvement practices.

2. Outcome Type : Change in Action Outcome Measure

2011:800 2012:800 2013:800 2014:800 2015:800

3. Associated Knowledge Area(s)

- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 314 - Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals

- 605 - Natural Resource and Environmental Economics
- 722 - Zoonotic Diseases and Parasites Affecting Humans
- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of wildlife professionals improving their skills in handling wildlife damage issues.

2. Outcome Type : Change in Action Outcome Measure

2011:100 2012:100 2013:100 2014:100 2015:100

3. Associated Knowledge Area(s)

- 135 - Aquatic and Terrestrial Wildlife
- 605 - Natural Resource and Environmental Economics
- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of non-industrialized, private landowners initiating wildlife-related enterprises.

2. Outcome Type : Change in Action Outcome Measure

2011:320 2012:320 2013:320 2014:320 2015:320

3. Associated Knowledge Area(s)

- 136 - Conservation of Biological Diversity
- 605 - Natural Resource and Environmental Economics
- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 4

1. Outcome Target

Number of landowners reporting improved wildlife conservation due to management practices.

2. Outcome Type : Change in Condition Outcome Measure

2011:200 2012:200 2013:200 2014:200 2015:200

3. Associated Knowledge Area(s)

- 135 - Aquatic and Terrestrial Wildlife
- 605 - Natural Resource and Environmental Economics

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 5

1. Outcome Target

Number of clientele reporting increased income levels due to wildlife enterprises.

2. Outcome Type : Change in Condition Outcome Measure

2011:50 2012:50 2013:50 2014:50 2015:50

3. Associated Knowledge Area(s)

- 135 - Aquatic and Terrestrial Wildlife
- 605 - Natural Resource and Environmental Economics

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 Programmatic Challenges

Description

The most likely limiting factor for the program is competing programmatic challenges that might impact funding for wildlife research and extension programming. The economy, natural disasters, and government regulations might influence clientele interest in the program by replacing wildlife conservation with other concerns, especially short-term.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Time series (multiple points before and after program)
- Case Study

Description

Evaluation of this program will include retrospective producer surveys and case studies of selected clientele. The time series analysis will consist of wildlife population and harvest statistics for Mississippi.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Case Study
- Observation

Description

Clientele surveys will use a sample of the populations. The case study and observation methods will be used with a few selected producers. Wildlife population and harvest statistics will be used for the time series analysis.

V(A). Planned Program (Summary)

Program # 11

1. Name of the Planned Program

Early Care and Education

2. Brief summary about Planned Program

This program focuses on Extension efforts to improve the quality of child care in Mississippi.

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
802	Human Development and Family Well-Being	80%		80%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	20%		20%	
	Total	100%		100%	

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

1. Situation and priorities

The quality of care in Mississippi is adversely affected by employment of untrained providers.

Quality childcare is not available in many communities.

The high turnover rate in the childcare industry affects quality of care.

Providers are mandated to obtain training hours in order to meet state licensing requirements.

2. Scope of the Program

- Multistate Extension

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

1. Assumptions made for the Program

A shortage of child care options negatively impacts parents' work force performance.

Due to lack of a state funded early care & education system, quality of care is questionable.

2. Ultimate goal(s) of this Program

This program seeks to increase the number of high-quality child care options for Mississippi families.

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
2011	11.0	0.0	0.0	0.0
2012	11.0	0.0	0.0	0.0
2013	11.0	0.0	0.0	0.0
2014	11.0	0.0	0.0	0.0
2015	11.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Train FCS Area Agents & early childhood staff (Educators) in content & teaching techniques as it relates to children ages 0-5 & 6-12.

Train Child and Family Development (CFD) Area Agents and project staff in parent education as related to readiness issues

CFD Area Agents & project staff collaborate with local organizations, agencies, and businesses.

CFD Area Agents & project staff serve as a community resource in childcare issues.

CFD Area Agents & project staff produce & distribute newsletters, news articles, publications, and training calendar.

CFD Area Agents & project staff design, facilitate & conduct direct trainings, & distance trainings.

CFD Area Agents & project staff, develop, & implement evaluation strategies.

CFD Area Agents & project staff market program (including distance ed.) among agencies & in local media, produce flyers.

CFD Area Agents & project staff provides mandated staff development training to keep providers in good standing with legal requirements.

CFD Area Agents & project staff provide technical assistance to providers & businesses.

CFD Area Agents and project staff will receive/ maintain ECERS; ITERS; and FDCRS Certification.

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"> ● Workshop ● Group Discussion ● One-on-One Intervention 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● Web sites

3. Description of targeted audience

In general, audience for this program is families and communities. Specifically, the following groups are target audiences: Early Care & Education Providers, including Directors, Center-based professionals, Family Childcare

providers, and School-age providers.

- Industry/Business owners
- Parents
- Grandparents
- Agencies
- Professional Organizations
- Elementary teachers
- Elected officials

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	18400	72000	0	0
2012	18400	72000	0	0
2013	18400	72000	0	0
2014	18400	72000	0	0
2015	18400	72000	0	0

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	1	1
2012	0	1	1
2013	0	1	1
2014	0	1	1
2015	0	1	1

V(H). State Defined Outputs

1. Output Target

- Number of clientele attending seminars, workshops, and short courses.

2011:17252 2012:17252 2013:17252 2014:17252 2015:17252

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of clientele increasing knowledge in child care and development content areas.
2	Number of care providers maintaining certification requirements.
3	Number of care providers increasing the quality of care provided.

Outcome # 1

1. Outcome Target

Number of clientele increasing knowledge in child care and development content areas.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:3400 2012:3400 2013:3400 2014:3400 2015:3400

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of care providers maintaining certification requirements.

2. Outcome Type : Change in Action Outcome Measure

2011:2720 2012:2720 2013:2720 2014:2720 2015:2720

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of care providers increasing the quality of care provided.

2. Outcome Type : Change in Condition Outcome Measure

2011:1360 2012:1360 2013:1360 2014:1360 2015:1360

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations

Description

Regulations regarding child care have made it increasingly difficult to operate care facilities at a profit or break-even level. These regulations, along with economic conditions, have the most potential impact on this program.

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

1. Evaluation Studies Planned

- Before-After (before and after program)

Description

Quality of care provided will be measured using the appropriate day care rating scales (ECERS-R, ITTERS-R, or FDCERS) using pre- and post-observations.

2. Data Collection Methods

- Sampling
- Observation

Description

Evaluations will use the rating scales mentioned above, which are observation-based.

V(A). Planned Program (Summary)**Program # 12****1. Name of the Planned Program**

Family Resource Management

2. Brief summary about Planned Program

This project focuses on helping families improve their financial well-being through enhancement of personal financial choices: shopping, money management, credit use, fraud, and record-keeping, clothing and housing.

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
602	Business Management, Finance, and Taxation	0%		30%	
605	Natural Resource and Environmental Economics	0%		5%	
608	Community Resource Planning and Development	0%		5%	
610	Domestic Policy Analysis	0%		5%	
801	Individual and Family Resource Management	100%		0%	
802	Human Development and Family Well-Being	0%		15%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	0%		30%	
805	Community Institutions, Health, and Social Services	0%		10%	
	Total	100%		100%	

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

According to the U.S. Census Bureau, Mississippi ranks second among states for individuals living in poverty. Only Louisiana has more living below poverty level. Mississippi also ranks sixth among states for the percentage of the population that is unemployed. Economic challenges of Mississippi citizens have a great impact on educational programs planned to meet their needs.

The national rate of bankruptcies grew in the last quarter of 2005 when Americans were trying to file before the new bankruptcy legislation of 2005 went into effect on October 17 and Mississippi followed suit, however, the bankruptcy rate in Mississippi is expected to climb even more in next few years, as victims of Hurricane Katrina who lost jobs and property in 2005 run into more difficulty. Research has shown that bankruptcies continue to rise for at least 3 years after major disasters. Close proximity to gambling and lack of health insurance have been shown to increase bankruptcy filings. More than 18% of

Mississippians are currently without health insurance. Additionally, loss of tourism dollars from the gulf oil spill will negatively impact the economy and family finances.

National trends affecting family resource management programming show that household debt is at a record high relative to disposable income. The personal savings rate has not just been low in the last few months, it has been negative (currently -.5) meaning that Americans are spending more than they earn and either using savings or borrowing to pay. It will be more important than ever to encourage clientele to save, reduce debt and to live within their means.

2. Scope of the Program

- Multistate Extension

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

1. Assumptions made for the Program

Peoples' choices and actions affect themselves, their families and their communities.

Individuals and families have the capacity to learn and make changes to help themselves improve their lives.

Providing objective, research-based information and instruction about sound resource management can motivate consumers to learn and adopt new practices.

If citizens develop and practice sound resource management skills, then their financial well-being will improve.

Resources managed by families include housing and clothing.

2. Ultimate goal(s) of this Program

This program will help Mississippi families improve their financial well-being.

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
2011	6.0	0.0	2.0	0.0
2012	6.0	0.0	2.0	0.0
2013	6.0	0.0	2.0	0.0
2014	6.0	0.0	2.0	0.0
2015	6.0	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Extension programming will be conducted using the following methods: Workshops, group training; Information fairs; One-on-one consultations; Media-news, radio, TV; Publications, printed and web-based information; and Newsletters, in-print and email.

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"> • Workshop • Group Discussion • One-on-One Intervention • Demonstrations | <ul style="list-style-type: none"> • Public Service Announcement • Newsletters • Web sites |
|---|---|

3. Description of targeted audience

The target audience for this program includes almost all of the 2.8 million Mississippians.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	22400	28000	0	0
2012	22400	28000	0	0
2013	22400	28000	0	0
2014	22400	28000	0	0
2015	22400	28000	0	0

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	5	5
2012	0	5	5
2013	0	5	5
2014	0	5	5
2015	0	5	5

V(H). State Defined Outputs

1. Output Target

- Number of clientele attending seminars, workshops, and short courses.

2011:9865 2012:9865 2013:9865 2014:9865 2015:9865

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of clientele adopting new practices related to financial management.
2	Number of clientele reducing debt.
3	Number of clientele increasing wealth.

Outcome # 1

1. Outcome Target

Number of clientele adopting new practices related to financial management.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:2000 2012:2000 2013:2000 2014:2000 2015:2000

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of clientele reducing debt.

2. Outcome Type : Change in Condition Outcome Measure

2011:1600 2012:1600 2013:1600 2014:1600 2015:1600

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of clientele increasing wealth.

2. Outcome Type : Change in Condition Outcome Measure

2011:800 2012:800 2013:800 2014:800 2015:800

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Competing Programmatic Challenges

Description

Economic conditions are the most important factor affecting the achievement of this program's outcomes.

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

1. Evaluation Studies Planned

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

Description

This program will utilize both immediate and follow-up comparisons of financial indicators.

2. Data Collection Methods

- Sampling
- Mail
- On-Site

Description

Sampling will be used to measure debt reduction and wealth improvement of clientele. On-site methods will be used to ascertain planned changes in management practices. Mailed questionnaires will be used to follow-up to see if practices were maintained and results achieved.

V(A). Planned Program (Summary)**Program # 13****1. Name of the Planned Program**

Human Health

2. Brief summary about Planned Program

This program focuses on improving the health of Mississippians, with a special emphasis on adult health. (Childhood obesity was removed from this program and placed into a separate program.)

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
132	Weather and Climate	0%		10%	
610	Domestic Policy Analysis	0%		30%	
723	Hazards to Human Health and Safety	0%		10%	
724	Healthy Lifestyle	100%		0%	
802	Human Development and Family Well-Being	0%		50%	
	Total	100%		100%	

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

Individuals living in the Mississippi experience significantly higher rates of diabetes, hypertension, diabetes, and obesity, when compared to the overall general national population. Higher rates of preventable conditions and risk factors translate into a higher morbidity rate. An example of this includes the high stroke death rate for both blacks and whites for those living in Mississippi. This is particularly true for African American men, who are also at a greater risk of mortality from heart disease. Chronic conditions and illnesses reduce the quality of life for Mississippi residents, decrease the workforce productivity and cause health care costs to spiral. Because of low levels of education and the high unemployment rate, these factors contribute to a lack of insurance (Mississippi has an employment-based health insurance system) and these factors also may contribute to Mississippi's high premature death rate, as calculated through years of potential life lost, which is 2nd highest in the nation.

2. Scope of the Program

- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)**1. Assumptions made for the Program**

Changes to healthier lifestyles will lead to decreases in the primary risk factors contributing to morbidity and mortality of Mississippians: blood cholesterol, body mass index, and hypertension.

2. Ultimate goal(s) of this Program

Increase the overall health of Mississippians, leading to reduced health care costs, reduced employee absenteeism, and overall improvement of mental and physical well-being.

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
2011	4.5	0.0	0.8	0.0
2012	4.5	0.0	0.8	0.0
2013	4.5	0.0	0.8	0.0
2014	4.5	0.0	0.8	0.0
2015	4.5	0.0	0.8	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research in healthy lifestyles education will be complemented by Extension programming, including the following methods:

- Training programs
- Video conferences
- Health fairs
- Workshops
- Partnership development
- Needs assessment
- Leadership training

Strategic planning

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"> • Workshop • One-on-One Intervention • Demonstrations 	<ul style="list-style-type: none"> • Public Service Announcement • Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

The audience for this program includes all Mississippians, with a specific focus on those who are overweight and/or have hypertension, and high blood cholesterol.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	30000	35000	0	0
2012	30000	35000	0	0
2013	30000	35000	0	0
2014	30000	35000	0	0
2015	30000	35000	0	0

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	1	2	3
2012	1	2	3
2013	1	2	3
2014	1	2	3
2015	1	2	3

V(H). State Defined Outputs

1. Output Target

- Number of clientele attending workshops, seminars, and short courses.

2011:22981 2012:22981 2013:22981 2014:22981 2015:11500

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of clientele reporting changes in lifestyle to improve health.
2	Number of clientele reporting decreases in at least one indicator (blood pressure, blood cholesterol, body mass index).

Outcome # 1

1. Outcome Target

Number of clientele reporting changes in lifestyle to improve health.

2. Outcome Type : Change in Action Outcome Measure

2011:2250 **2012:**2250 **2013:**2250 **2014:**2250 **2015:**2250

3. Associated Knowledge Area(s)

- 723 - Hazards to Human Health and Safety
- 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of clientele reporting decreases in at least one indicator (blood pressure, blood cholesterol, body mass index).

2. Outcome Type : Change in Condition Outcome Measure

2011:1800 **2012:**1800 **2013:**1800 **2014:**1800 **2015:**1800

3. Associated Knowledge Area(s)

- 723 - Hazards to Human Health and Safety
- 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Other (Cultural traditions)

Description

Economic factors may influence the ability to change lifestyle habits. The most important factor, however, is overcoming cultural traditions related to health.

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

1. Evaluation Studies Planned

- Before-After (before and after program)

Description

Before-after studies will be used to measure health indicators. During program studies will be used to measure changes in knowledge and skill related to health.

2. Data Collection Methods

- Sampling
- Mail
- On-Site

Description

Data will be collected on some indicators using on-site techniques. Behaviors and follow-up information will be collected via mail.

V(A). Planned Program (Summary)**Program # 14****1. Name of the Planned Program**

Human Nutrition

2. Brief summary about Planned Program

This program includes extension and research efforts related to providing safe, nutritious food to Mississippians.

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
205	Plant Management Systems	0%		5%	
303	Genetic Improvement of Animals	0%		5%	
502	New and Improved Food Products	0%		5%	
503	Quality Maintenance in Storing and Marketing Food Products	0%		5%	
703	Nutrition Education and Behavior	100%		20%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	0%		50%	
801	Individual and Family Resource Management	0%		10%	
	Total	100%		100%	

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

Many consumers:

- have trouble identifying foods that are good sources of key nutrients;
- do not understand the link between food and health;
- are not familiar with proper food handling techniques necessary to prevent food-borne illness;
- are not familiar with appropriate food choices for individuals across the life cycle;
- do not follow the principles of the Dietary Guidelines;
- do not understand and use the Nutrition Facts panel;

- have trouble identifying foods that are good sources of key nutrients;
- do not understand the link between food and health; and
- need instruction in saving money in food shopping

This program previously contained Food Safety, which is now a separate program on its own.

2. Scope of the Program

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

People will make better food choices if they know the facts about nutrition and its relation to health. They will observe safe food handling practices if they understand the dangers of not doing so.

2. Ultimate goal(s) of this Program

The ultimate goal of this program is that Mississippians will enjoy safe, nutritious food as part of a healthy diet.

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
2011	14.0	0.0	1.0	0.0
2012	14.0	0.0	1.0	0.0
2013	14.0	0.0	1.0	0.0
2014	14.0	0.0	1.0	0.0
2015	14.0	0.0	1.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research and extension activities will be carried out, including
 Partner with community groups and organizations to set up educational opportunities.
 Train/Update professional and paraprofessionals on new USDA Food Pyramid and other related materials
 Conduct educational programs as needed

Partner with local school systems to conduct nutrition-based research and provided nutrition education.

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

Extension

Direct Methods	Indirect Methods
-----------------------	-------------------------

- Workshop
- Group Discussion
- One-on-One Intervention
- Demonstrations

- Public Service Announcement
- Newsletters
- TV Media Programs
- Web sites

3. Description of targeted audience

The audience for this program consists of all Mississippians. Special emphasis is placed on those who historically have demonstrated poor nutrition behaviors, which includes low-income populations--both parents and children in these families are targeted.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	150000	200000	250000	300000
2012	150000	200000	250000	300000
2013	150000	200000	250000	300000
2014	150000	200000	250000	300000
2015	150000	200000	250000	300000

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	10	2	12
2012	10	2	12
2013	10	2	12
2014	10	2	12
2015	10	2	12

V(H). State Defined Outputs

1. Output Target

- Number of clientele attending workshops, seminars, and short courses.

2011:120000

2012:120000

2013:120000

2014:120000

2015:120000

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of clientele who learn how to use the food pyramid and nutritional guidelines to make food decisions.
2	Number of clientele who adopt practices to fit their diets within the dietary guidelines.
3	Number of clientele reporting improved health and/or well-being due to changes in diet.

Outcome # 1

1. Outcome Target

Number of clientele who learn how to use the food pyramid and nutritional guidelines to make food decisions.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:18000 2012:18000 2013:18000 2014:18000 2015:18000

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of clientele who adopt practices to fit their diets within the dietary guidelines.

2. Outcome Type : Change in Action Outcome Measure

2011:15000 2012:15000 2013:15000 2014:15000 2015:15000

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of clientele reporting improved health and/or well-being due to changes in diet.

2. Outcome Type : Change in Condition Outcome Measure

2011:7200 2012:7200 2013:7200 2014:7200 2015:7200

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Competing Public priorities
- Competing Programmatic Challenges

Description

Funding is the primary factor affecting the ability of this program to achieve its goals. Another important factor is cultural habits that must be overcome to affect changes in lifestyle.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- Time series (multiple points before and after program)

Description

This program will use both retrospective and before-after methods to measure changes in food buying, preparation, and consumption behaviors. Time series analysis will be used to monitor incidents of food-borne illness.

2. Data Collection Methods

- Sampling
- Mail
- On-Site

Description

Some measurements will be taken on-site (current behavior and planned behavioral changes). Others will use mail questionnaires (behavioral changes continued after program ends).

V(A). Planned Program (Summary)

Program # 15

1. Name of the Planned Program

Family Leadership Development

2. Brief summary about Planned Program

The program addresses the development of volunteer leaders needed in various roles helping make communities better places to live.

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 : No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
805	Community Institutions, Health, and Social Services	100%		100%	
	Total	100%		100%	

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

1. Situation and priorities

Throughout its history, Extension has partnered with citizens, local leaders, and local government officials to identify and acquire the knowledge and strategies needed to address public issues effectively. Through leadership and volunteer development programs, Extension has made and will continue to make major contributions toward the preparation of citizens and local government officials for strengthening organizations and communities. Leadership development builds the capacity to address issues faced by communities.

2. Scope of the Program

- In-State Extension

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

1. Assumptions made for the Program

If they participate in the leadership development programs, clientele will assume positions of leadership.

If clientele put into action their leadership styles and theory, the communities will improve dramatically.

If clientele learn to work diverse audiences they will understand and impact public issues affecting communities.

2. Ultimate goal(s) of this Program

The ultimate goal of this program is to develop leadership abilities in volunteers, so that they may become effective community leaders.

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
2011	9.5	0.0	0.0	0.0
2012	9.5	0.0	0.0	0.0
2013	9.5	0.0	0.0	0.0
2014	9.5	0.0	0.0	0.0
2015	9.5	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Extension programming efforts on numerous aspects of leadership and volunteerism

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"> • Workshop • Group Discussion • Demonstrations 	<ul style="list-style-type: none"> • Newsletters • Web sites

3. Description of targeted audience

The target audience for this program includes anyone interested in improving their community. Specific groups include master extension volunteers, 4-H volunteers, and community leaders.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	40000	100000	0	0
2012	40000	100000	0	0
2013	40000	100000	0	0
2014	40000	100000	0	0
2015	40000	100000	0	0

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

2011:0**2012:0****2013:0****2014:0****2015:0****3. Expected Peer Review Publications**

Year	Research Target	Extension Target	Total
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0

V(H). State Defined Outputs**1. Output Target**

- Number of clientele attending workshops, seminars, and short courses.

2011:17075**2012:17075****2013:17075****2014:17075****2015:17075**

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of clientele who improve their leadership skills.
2	Number of clientele who make use of leadership skills by volunteering for community organizations.

Outcome # 1

1. Outcome Target

Number of clientele who improve their leadership skills.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:3400 **2012:**3400 **2013:**3400 **2014:**3400 **2015:**3400

3. Associated Knowledge Area(s)

- 805 - Community Institutions, Health, and Social Services

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Number of clientele who make use of leadership skills by volunteering for community organizations.

2. Outcome Type : Change in Action Outcome Measure

2011:2720 **2012:**2720 **2013:**2720 **2014:**2720 **2015:**2720

3. Associated Knowledge Area(s)

- 805 - Community Institutions, Health, and Social Services

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Competing Programmatic Challenges

Description

Economic factors could possibility reduce the number of potential volunteers.Funding for programming could affect the ability of this program to meet goals.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)

Description

Before-after studies will be used to measure leadership skill development.Retrospective studies will be implemented to measure efforts of participants.

2. Data Collection Methods

- Sampling
- Mail
- On-Site

Description

Retrospective studies will use mailed questionnaires. Before-after studies will be conducted on-site. Both will use sampling of the population.

V(A). Planned Program (Summary)

Program # 16

1. Name of the Planned Program

Family Life

2. Brief summary about Planned Program

This program focuses on family issues and related policies.

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
802	Human Development and Family Well-Being	100%		0%	
	Total	100%		0%	

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

1. Situation and priorities

Social and population trends make it difficult for families to remain strong in the 21st century. Caring for aging family members, being effective parents, being successful in the workplace, and staying married are all challenges to today's families.

2. Scope of the Program

- Integrated Research and Extension

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

1. Assumptions made for the Program

Today's families need help developing skills in parenting, providing aged care, and locating resources available for help.

2. Ultimate goal(s) of this Program

The ultimate goal of this program is to develop strong families that make good decisions and stay together.

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
2011	4.5	0.0	0.0	0.0
2012	4.5	0.0	0.0	0.0
2013	4.5	0.0	0.0	0.0
2014	4.5	0.0	0.0	0.0
2015	4.5	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research and extension programming will focus on family dynamics, parenting skills, human development, and aged care.

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"> ● Workshop ● Group Discussion ● One-on-One Intervention 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● Web sites

3. Description of targeted audience

The target audience for this program includes all Mississippi families.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	6500	32100	0	0
2012	6500	32100	0	0
2013	6500	32100	0	0
2014	6500	32100	0	0
2015	6500	32100	0	0

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

2011:0

2012:0

2013:0

2014:0

2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	3	3
2012	0	3	3
2013	0	3	3
2014	0	3	3
2015	0	3	3

V(H). State Defined Outputs

1. Output Target

- Number of clientele attending workshops, seminars, and short courses.

2011:5750

2012:5750

2013:5750

2014:5750

2015:5750

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of families adopting recommended family strategies and behaviors.
2	Number of families reporting improved strengthened family life.

Outcome # 1

1. Outcome Target

Number of families adopting recommended family strategies and behaviors.

2. Outcome Type : Change in Action Outcome Measure

2011:1100 2012:1100 2013:1100 2014:1100 2015:1100

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Number of families reporting improved strengthened family life.

2. Outcome Type : Change in Condition Outcome Measure

2011:880 2012:880 2013:880 2014:880 2015:880

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Competing Programmatic Challenges

Description

Economic concerns are very disruptive to families. Funding for research and extension efforts could affect the ability of the program to meet its goals.

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

1. Evaluation Studies Planned

- Retrospective (post program)

Description

Retrospective studies will be conducted to measure reported behavior changes and outcomes.

2. Data Collection Methods

- Sampling
- Mail

Description

A sample of participants will receive mailed questionnaires to complete the retrospective studies.

V(A). Planned Program (Summary)**Program # 17****1. Name of the Planned Program**

Integrated Pest Management

2. Brief summary about Planned Program

This program focuses on the control and prevention of pests, including such concepts as pest identification, pest biology, inspection and monitoring, pest thresholds, habitats and habitat management as it relates to pest control, exclusion, and pesticide chemistry and formulations.

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
133	Pollution Prevention and Mitigation	0%		5%	
205	Plant Management Systems	10%		0%	
206	Basic Plant Biology	5%		0%	
211	Insects, Mites, and Other Arthropods Affecting Plants	10%		65%	
212	Pathogens and Nematodes Affecting Plants	5%		0%	
213	Weeds Affecting Plants	5%		0%	
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	5%		0%	
215	Biological Control of Pests Affecting Plants	10%		0%	
216	Integrated Pest Management Systems	50%		5%	
311	Animal Diseases	0%		10%	
402	Engineering Systems and Equipment	0%		5%	
512	Quality Maintenance in Storing and Marketing Non-Food Products	0%		10%	
	Total	100%		100%	

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

Mississippi's mild temperatures, high humidity, long growing season, and abundant rainfall make it a haven for numerous pests. Integrated pest management (IPM) helps producers of agronomic, turf, and horticultural crops control pest damage while decreasing pesticide costs and protecting the environment. The principles of IPM can also be applied in home and business settings.

2. Scope of the Program

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

IPM principles can be applied in a number of settings and offer producers a viable option for lowering expenses and maintaining effective control of pests.

2. Ultimate goal(s) of this Program

The ultimate goal of IPM is to increase profits and reduce harmful environmental impacts by decreasing the use of pesticides in agricultural and horticultural production.

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
2011	3.5	0.0	0.2	0.0
2012	3.5	0.0	0.2	0.0
2013	3.5	0.0	0.2	0.0
2014	3.5	0.0	0.2	0.0
2015	3.5	0.0	0.2	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research and extension programming will be conducted many IPM areas, including the following:

- urban entomology and plant pathology
- plant disease and nematode diagnostics
- cotton pest management
- greenhouse tomato pest management
- soybean management by application of research 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"> • Workshop • One-on-One Intervention • Demonstrations 	<ul style="list-style-type: none"> • Public Service Announcement • Newsletters • Web sites

3. Description of targeted audience

The target audience for this program includes home pest control providers, homeowners, cotton producers, soybean producers, and greenhouse tomato producers.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	8800	17000	0	0
2012	8800	17000	0	0
2013	8800	17000	0	0
2014	8800	17000	0	0
2015	8800	17000	0	0

2. (Standard Research Target) Number of Patent Applications Submitted**2011:0****2012:0****2013:0****2014:0****2015:0****3. Expected Peer Review Publications**

Year	Research Target	Extension Target	Total
2011	2	2	4
2012	2	2	4
2013	2	2	4
2014	2	2	4
2015	2	2	4

V(H). State Defined Outputs**1. Output Target**

- Number of clientele attending workshops, seminars, short courses, and demonstrations.

2011:4300**2012:4300****2013:4300****2014:4300****2015:4300**

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of producers adopting IPM production practices.
2	Number of producers increasing profits.
3	Number of producers reducing environmental impacts of pesticide use.

Outcome # 1

1. Outcome Target

Number of producers adopting IPM production practices.

2. Outcome Type : Change in Action Outcome Measure

2011:800 2012:800 2013:800 2014:800 2015:800

3. Associated Knowledge Area(s)

- 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
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 215 - Biological Control of Pests Affecting Plants
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of producers increasing profits.

2. Outcome Type : Change in Condition Outcome Measure

2011:640 2012:640 2013:640 2014:640 2015:640

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of producers reducing environmental impacts of pesticide use.

2. Outcome Type : Change in Condition Outcome Measure

2011:640

2012:640

2013:640

2014:640

2015:640

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 215 - Biological Control of Pests Affecting Plants
- 216 - Integrated Pest Management Systems

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

The IPM program's success is influenced by many factors. Like most programs based on production agriculture, natural disasters and government regulations have the largest potential impact.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Case Study

Description

Retrospective studies will be utilized to measure implementation and impacts of IPM. Case study methods will be used to verify implementation.

2. Data Collection Methods

- Sampling
- Observation

Description

Clientele will be sampled for conducting retrospective studies. Observation and case study techniques will be used with a few selected producers.

V(A). Planned Program (Summary)**Program # 18****1. Name of the Planned Program**

Agribusiness/Risk Farm Management

2. Brief summary about Planned Program

This program helps agricultural producers improve the profitability of their enterprise through management, marketing, and influencing farm policy.

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
601	Economics of Agricultural Production and Farm Management	40%		20%	
602	Business Management, Finance, and Taxation	0%		40%	
604	Marketing and Distribution Practices	40%		20%	
610	Domestic Policy Analysis	20%		20%	
	Total	100%		100%	

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

Mississippi's farmers and agribusiness professionals operate in a competitive and rapidly changing environment. To thrive in this environment, they need access to timely information, tools to effectively evaluate that information, and the skills to recognize the need for and implement changes in the management of their operations.

Mississippi's agricultural producers and agribusiness professionals need timely and accurate information on developments in markets for their commodities. In addition, they need a better understanding of the marketing tools and opportunities that are available to them.

Changes in agricultural policy related to commodity production and natural resource conservation have a tremendous impact on the economic well-being of Mississippi's agricultural producers, agribusinesses, and landowners. These stakeholders need access to the most current information and analysis related to proposed policy changes.

2. Scope of the Program

- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)**1. Assumptions made for the Program**

Producers that are proficient at production techniques are not necessarily proficient at the business aspects of farming. While production levels are important to farm viability, marketing, management, and knowledge of policy

are also important components of successful enterprises.

2. Ultimate goal(s) of this Program

The program seeks to increase the profitability of farm enterprises so that operations are sustainable.

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
2011	3.0	0.0	1.0	0.0
2012	3.0	0.0	1.0	0.0
2013	3.0	0.0	1.0	0.0
2014	3.0	0.0	1.0	0.0
2015	3.0	0.0	1.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

This program includes three areas designed to assist farmers in making their enterprises more profitable:

The Farm Management Information and Training area provides farmers and agribusiness professionals with timely and relevant information on a variety of topics potentially impacting management decisions on their operations. It offers a number of practical decision aids along with training on the use of these aids as well as providing a resource for managers who need help with business planning.

The Extension Agricultural Marketing Information and Education area provides producers of major row crops, cattle, milk and dairy products, catfish, fruits and vegetables, and horticultural crops with regular, timely updates on conditions in these commodity markets. In addition, training will be made available on the use of commonly used marketing tools and strategies.

The Agricultural Policy Analysis and Education area provides producers, lenders and other input providers, and rural community leaders with timely and relevant information on existing farm, conservation, and international trade programs as well as analysis of the potential impact of proposed policy changes.

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"> ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● Web sites

3. Description of targeted audience

The target audience for this program consists primarily of agricultural producers and related agribusiness personnel.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	4000	4000	0	0
2012	4000	4000	0	0
2013	4000	4000	0	0
2014	4000	4000	0	0
2015	4000	4000	0	0

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	2	2	4
2012	2	2	4
2013	2	2	4
2014	2	2	4
2015	2	2	4

V(H). State Defined Outputs

1. Output Target

- Number of producers attending workshops, seminars, and short courses.

2011:1500 2012:1500 2013:1500 2014:1500 2015:1500

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of producers adopting recommended strategies in management, marketing, and government program use.
2	Number of producers indicating increased profitability due to implementation of recommended strategies.

Outcome # 1

1. Outcome Target

Number of producers adopting recommended strategies in management, marketing, and government program use.

2. Outcome Type : Change in Action Outcome Measure

2011:250 2012:250 2013:250 2014:250 2015:250

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of producers indicating increased profitability due to implementation of recommended strategies.

2. Outcome Type : Change in Condition Outcome Measure

2011:200 2012:200 2013:200 2014:200 2015:200

3. Associated Knowledge Area(s)

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

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

Description

As with most production-related programs, the success of this program can be influenced by many factors. The program is designed to help producers maintain their viability in spite of external factors, however.

Retirements and resignations have left this program shorthanded. New hires for the program are not imminent.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Time series (multiple points before and after program)
- Case Study

Description

Retrospective studies will be used to determine adoption strategies and related impacts. Time series and case study analyses will be used to determine trends in marketing effectiveness.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Case Study

Description

A sample of the population will be used for the retrospective studies. A few selected producers will be used in the case study analysis to verify implementation and impacts.

V(A). Planned Program (Summary)**Program # 19****1. Name of the Planned Program**

4-H Youth Development

2. Brief summary about Planned Program

This program contains all efforts regarding youth development by Extension, including military, volunteer development, and youth at risk.

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 : No

V(B). Program Knowledge Area(s)**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%		0%	
	Total	100%		0%	

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

Parents want their children to grow into healthy, productive, successful adults. The mission of 4-H, the non-formal youth education program of the Mississippi State University Extension Service, is to help parents achieve that goal.

4-H helps youth acquire knowledge that can enable them to develop such life skills as: communication, decision-making, leadership, interpersonal relations, and community awareness. For a list of examples, see the Search Institute (<http://www.search-institute.org/assets/forty.html>) or Iowa State University (<http://www.extension.iastate.edu/4H/lifeskills/homepage.html>).

4-H also helps youth form attitudes that will enable them to become self-directing, productive, and contributing members of society. The 4-H mission is accomplished through the involvement of parents, volunteer leaders, Extension agents, and other adults who organize and conduct educational experiences in community, school, and family settings. 4-H learning experiences are designed to help youth work with others in real-life situations. These experiences encourage family interactions by promoting individual growth in knowledge, skills, and attitudes.

Mississippi is ranked 50th by the National Kids Count analysis of the status of children. More than 31 percent of Mississippi children live in poverty and more than 39 percent live in families where no parent has full-time, year round employment. 42 percent of the children are living in single-parent households. Twelve percent of Mississippi teens are not attending school nor working while the school dropout rate is ten percent. 35 out of 82 counties have populations of more than 20 percent living below the poverty level. Poverty multiplies risk factors. Mississippi youth are at risk for school failure, abuse, neglect, crime and violence. These youth are also at long-term risk of not becoming dependable family members, workers and involved citizens. Mississippi youth need knowledge skills and behavior to lead fulfilling lives and to become engaged throughout Mississippi communities.

Currently Mississippi has 4,828 active-duty National Guard and Reserve Units called to active duty in Mississippi. There are five military bases (Columbus AFB, Keesler AFB, naval Air Station Meridian, Naval Air Station Pascagoula, Naval Construction Battalion Center Gulfport) in our state. These full time soldiers and their families are dealing with multiple deployment and reunion issues for which the Extension Youth Development program can provide assistance.

Volunteers are vital to the Mississippi State University Extension Service 4-H Youth Development Program. Currently, there are over 6,100 adult volunteers and 98 youth are serving as volunteers in Mississippi 4-H. There is a need to provide

Extension Agents with the skills that they need to become effective managers of volunteers. There is a need to equip 4-H volunteers with the skills that they need to become successful as 4-H club managers. There also is a need to provide learn-by-doing opportunity for youth to develop as leaders in their clubs and serve in county, district, and state leadership roles in Mississippi 4-H.

2. Scope of the Program

- Multistate Extension

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

1. Assumptions made for the Program

There is a strong commitment to youth development in the state and a dedicated volunteer core. Additionally, 4-H will continue to have strong funding support at the local and state level.

2. Ultimate goal(s) of this Program

Development of life skills in youth.

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
2011	62.5	0.0	0.0	0.0
2012	62.5	0.0	0.0	0.0
2013	62.5	0.0	0.0	0.0
2014	62.5	0.0	0.0	0.0
2015	62.5	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities

- Recruit Youth and Volunteers
- Provide Volunteer Leader Training for Youth Leaders and Adult Volunteers
- Provide Training on organization and maintenance of community clubs
- Provide recognition events for youth to exhibit project skills, including the following:
 - 4-H Club Congress
 - District Achievement Days
 - County, State, & Regional Fairs
 - Livestock and Horse Shows
- To Provide training to Extension personnel on experiential education through subject-matter work:
- Chartering all 4-H Clubs and groups
- Four Essential Elements
- Legal Use of the Name and Emblem
- Diversity Training
- Financial Management

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"> • Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations 	<ul style="list-style-type: none"> • Public Service Announcement • Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

All Mississippians between the ages of 6 and 18.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	100000	80000	285000	125000
2012	100000	80000	285000	125000
2013	100000	80000	285000	125000
2014	100000	80000	285000	125000
2015	100000	80000	285000	125000

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	2	2
2012	0	2	2
2013	0	2	2
2014	0	2	2
2015	0	2	2

V(H). State Defined Outputs

1. Output Target

- Number of youth enrolled in 4-H Clubs.

2011:16000 2012:16000 2013:16000 2014:16000 2015:16000

- Number of clubs operating on military bases.

2011:3 2012:3 2013:3 2014:3 2015:3

- Number of youth-at-risk who join 4-H clubs.

2011:500 2012:500 2013:500 2014:500 2015:500

- Number of volunteers attending local and/or district training.

2011:500 2012:500 2013:500 2014:500 2015:500

- Number of volunteers attending state volunteer leaders conference.

2011:200 2012:200 2013:200 2014:200 2015:200

- Number of volunteers attending the regional 4-H volunteer leaders forum.

2011:40 2012:40 2013:40 2014:40 2015:40

V(I). State Defined Outcome

O. No.	Outcome Name
1	Adult and youth volunteers increasing their knowledge and skills in being effective volunteer leaders.
2	Volunteers participating in training conferences incorporate their skills gained from training to work with 4-H clubs.
3	Volunteer-managed 4-H clubs are sustained at the local level.
4	Number of youth who improve life skills.
5	Number of youth who increase knowledge of subject-matter areas.
6	Number of 4-H projects completed.
7	Youth increase their involvement in leadership events and activities at the district, state, and national levels.

Outcome # 1

1. Outcome Target

Adult and youth volunteers increasing their knowledge and skills in being effective volunteer leaders.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:300 2012:300 2013:300 2014:300 2015:300

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Volunteers participating in training conferences incorporate their skills gained from training to work with 4-H clubs.

2. Outcome Type : Change in Action Outcome Measure

2011:200 2012:200 2013:200 2014:200 2015:200

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Volunteer-managed 4-H clubs are sustained at the local level.

2. Outcome Type : Change in Condition Outcome Measure

2011:200 2012:200 2013:200 2014:200 2015:200

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

Number of youth who improve life skills.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:14500 **2012:**14500 **2013:**14500 **2014:**14500 **2015:**14500

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

Number of youth who increase knowledge of subject-matter areas.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:14500 **2012:**14500 **2013:**14500 **2014:**14500 **2015:**14500

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 6

1. Outcome Target

Number of 4-H projects completed.

2. Outcome Type : Change in Action Outcome Measure

2011:8000 **2012:**8000 **2013:**8000 **2014:**8000 **2015:**8000

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 7

1. Outcome Target

Youth increase their involvement in leadership events and activities at the district, state, and national levels.

2. Outcome Type : Change in Action Outcome Measure

2011:4000

2012:4000

2013:4000

2014:4000

2015:4000

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Appropriations changes
- Populations changes (immigration, new cultural groupings, etc.)

Description

While natural disasters are always a possibility, the primary external factors would be appropriations changes and population changes.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants

Description

Evaluations will be conducted at both the state and local levels. Most local evaluations will include either after-only, retrospective, or case study methodology. Comparative studies and some retrospective studies will be conducted at the state level.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Case Study

Description

Most local programs will use whole populations of clubs and/or counties. Most state evaluations will use sampling. Most of the data collection techniques will be used at one time or another.

V(A). Planned Program (Summary)

Program # 20

1. Name of the Planned Program

Enterprise and Community Development

2. Brief summary about Planned Program

This program focuses on

- Helping local communities evaluate their local economy and make decisions about alternatives for improving their economy
- Helping local communities improve their local health care services
- Developing local community leadership that creates a diverse environment and promotes a shared vision among residents.
- Assessing tourism potential and developing models and strategies to turn that potential into increased tourism and economic development, and
- Assisting local government officials, local units of government, and associations of local government officials in their efforts to improve governance at the grassroots and delivery of services to the citizens of Mississippi.

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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 : No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
608	Community Resource Planning and Development	25%		10%	
609	Economic Theory and Methods	25%		0%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	25%		35%	
805	Community Institutions, Health, and Social Services	25%		30%	
903	Communication, Education, and Information Delivery	0%		25%	
	Total	100%		100%	

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

1. Situation and priorities

Local economies include businesses, governments, and consumers who conduct thousands of interrelated transactions every day. The current economic climate is volatile, and concerns local and state policy makers. An understanding of the local economy improves the quality of decision-making. As community leaders evaluate their local economy and learn which specific sectors are competitive in their unique locality, they can make decisions concerning alternative strategies for diversifying their local economy.

The Mississippi population is greatly underserved by physicians. In 2003, there were 183 physicians per 100,000 people

compared to the national average of 281. Health care can be an economic engine. The health services sector makes up a substantial part of many rural economies, and is often the largest single employer in many communities.

For communities to be successful, they must support and nurture a leadership philosophy that welcomes widespread citizen involvement. The best leadership is shared and recognized as a process by which people are empowered to make their own decisions through collaborative efforts with diverse sectors of any given community. Traditional leadership ideas were based on competitive styles that were exclusive of the many voices within a community.

According to a report by the Southern Rural Development Center, building civically minded citizens within rural community requires that (1) all segments of the community be involved in guiding the future of the community, (2) new and expanded leadership development opportunities be provided, (3) leadership responsibilities should be shared in order to build trust, and (4) support of the establishment of local-oriented small and entrepreneurial businesses must be evident.

Launching a tourism initiative is one way to diversify and improve the economic vitality of a given community. Rural communities are searching for methods like tourism development to strengthen their traditionally agricultural-based economies. A prepared community is the foundation of a successful tourism initiative. As a community or region takes inventory of existing or potential attractions, such as festivals and events, natural resources, historical attractions, and recreation opportunities, local leaders should be mindful that tourism is a highly competitive business. Successful local tourism efforts build on existing strengths.

Within their respective election cycles, some 3,000 local elected officials are given responsibility by the electorate for the formulation, adoption, and implementation of public policy in Mississippi's 82 counties and 297 municipalities. Typically, from one-third to one-half of these officials will be newly-elected, having never held public office. In addition, some 2,000 major appointed county and municipal officials assist these elected officials in governing and providing services. These local

2. Scope of the Program

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

1. Most communities lack the resources to appropriately examine the consequences of events that can affect the economy. Communities that focus efforts on developing health care services will improve the health and livability of their communities. Talents and skills of local residents can be used to evoke positive community change; therefore, a leadership approach that targets people with diverse ethnic, social, and economic backgrounds is extremely important to the vitality of a given community. Not only should current, traditional leaders participate in leadership training, but also potential leaders with nontraditional leadership roles should be actively involved as well. Thus, an ongoing network of community leaders is formed to help shape the future direction of their respective communities. Through an asset-based community development approach, rural communities challenged with struggling economies are model communities where tourism initiatives could be successful. By inventorying, improving, and marketing existing resources and tapping into potential resources, communities that follow the tourism model for proper development learn how to revitalize their local economies and enjoy an improved quality of life for their residents. The better educated a local official, the better job he or she will do in meeting the needs of the citizens. The Mississippi legislature will continue to recognize the importance of training of public officials and will mandate this responsibility to the extension service.

- 2.
- 3.
- 4.
- 5.

2. Ultimate goal(s) of this Program

The ultimate goal of this program is to develop local communities through

- expanding the diversity of local economies, improving access to quality health care services for local citizens, with viable local health care organizations providing that care, developing leadership abilities in local communities, increasing tourism in local communities, thereby increasing the viability of local economies, and equipping local government officials with the skills and knowledge they need to be effective in their jobs and provide better local government to the citizens of Mississippi.

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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
2011	8.0	0.0	1.5	0.0
2012	8.0	0.0	1.5	0.0
2013	8.0	0.0	1.5	0.0
2014	8.0	0.0	1.5	0.0
2015	8.0	0.0	1.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Extension will assist local communities in conducting the following activities:

- Development of demographic, economic, and fiscal profiles
- Development of economic analyses (eg., feasibility, impact, export-base, business plans, commuting, trade, shift share, location quotients).
- Providing technical assistanceHolding community forums
- Taking strategic planning surveys (eg., market assessment, customer satisfaction, hospitality, health).
- Developing market strategies
- Conducting strategic planning workshops
- Publishing a directory of local servicesDeveloping quantitative profiles of health organizations
- Conducting feasibility studiesProducing gap analyses
- Promoting coalition building trainings
- Conducting tourism development workshops
- Providing customer service/hospitality trainings
- Conducting leadership development workshops
- Providing technical assistance to counties and municipalities in such areas as general management, financial administration, personnel administration, leadership development, economic development, community facilities and services, and solid waste management.

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"> • Education Class • Workshop • One-on-One Intervention • Demonstrations 	<ul style="list-style-type: none"> • Public Service Announcement • Newsletters • Web sites

3. Description of targeted audience

The target audience for this program consists of local communities and their leaders.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	109473	27368	0	0
2012	109473	27368	0	0
2013	109473	27368	0	0
2014	109473	27368	0	0
2015	110000	50000	0	0

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	2	0	2
2012	2	0	2
2013	2	0	2
2014	2	0	2
2015	2	0	2

V(H). State Defined Outputs

1. Output Target

- Number of clientele attending workshops, seminars, and short courses.

2011:18246 2012:18246 2013:18246 2014:18246 2015:18246

- Number of communities requesting economic analyses.

2011:30 2012:30 2013:30 2014:30 2015:30

- Number of communities participating in community health improvement activities.

2011:30 2012:30 2013:30 2014:30 2015:30

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of community leaders improving knowledge and skills.
2	Number of participants implementing strategies to improve public decision-making and/or increase civic engagement.
3	Number of local government officials obtaining required certifications.
4	Number of local communities adopting recommended strategies to improve their local economy.
5	Number of local communities adopting recommended strategies to improve health services.
6	Number of communities implementing strategies for improvement, development, and/or marketing of tourist attractions.
7	Number of local communities improving their health services.
8	Number of communities reporting increased levels of tourist activity.

Outcome # 1

1. Outcome Target

Number of community leaders improving knowledge and skills.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:8200 **2012:**8200 **2013:**8200 **2014:**8200 **2015:**8200

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 609 - Economic Theory and Methods
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 805 - Community Institutions, Health, and Social Services
- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of participants implementing strategies to improve public decision-making and/or increase civic engagement.

2. Outcome Type : Change in Action Outcome Measure

2011:3550 **2012:**3550 **2013:**3550 **2014:**3550 **2015:**3550

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 609 - Economic Theory and Methods
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 805 - Community Institutions, Health, and Social Services
- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of local government officials obtaining required certifications.

2. Outcome Type : Change in Action Outcome Measure

2011:4800 2012:4800 2013:4800 2014:4800 2015:4800

3. Associated Knowledge Area(s)

- 805 - Community Institutions, Health, and Social Services

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

Number of local communities adopting recommended strategies to improve their local economy.

2. Outcome Type : Change in Action Outcome Measure

2011:20 2012:20 2013:20 2014:20 2015:20

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 609 - Economic Theory and Methods

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 5

1. Outcome Target

Number of local communities adopting recommended strategies to improve health services.

2. Outcome Type : Change in Action Outcome Measure

2011:20 2012:20 2013:20 2014:20 2015:20

3. Associated Knowledge Area(s)

- 805 - Community Institutions, Health, and Social Services

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 6

1. Outcome Target

Number of communities implementing strategies for improvement, development, and/or marketing of tourist attractions.

2. Outcome Type : Change in Action Outcome Measure

2011:20 2012:20 2013:20 2014:20 2015:20

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 7

1. Outcome Target

Number of local communities improving their health services.

2. Outcome Type : Change in Condition Outcome Measure

2011:10 2012:10 2013:10 2014:10 2015:10

3. Associated Knowledge Area(s)

- 805 - Community Institutions, Health, and Social Services

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 8

1. Outcome Target

Number of communities reporting increased levels of tourist activity.

2. Outcome Type : Change in Condition Outcome Measure

2011:10 2012:10 2013:10 2014:10 2015:10

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension

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

The most important factor influencing this program is the local economy and its ability to sustain and improve local communities.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Case Study

Description

Retrospective studies will be used to measure knowledge gained by local community leaders. Case study analyses will be used to determine economic changes in local communities.

2. Data Collection Methods

- Sampling
- Whole population

Description

A sample of participants will be studied to determine program effectiveness in increasing knowledge of economic factors. The whole population of participating communities will be studied on a case-by-case basis to determine implementation of strategies and resulting impact.

V(A). Planned Program (Summary)**Program # 21****1. Name of the Planned Program**

Childhood Obesity

2. Brief summary about Planned Program

Mississippi has one of the highest rates of obesity in the nation, which holds true for childhood obesity as well.

3. Program existence : New (One year or less)

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 : No

V(B). Program Knowledge Area(s)**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
704	Nutrition and Hunger in the Population	30%		0%	
724	Healthy Lifestyle	70%		0%	
	Total	100%		0%	

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

In 2009 Mississippi had the highest rates of childhood and adult obesity in the nation. This marks the fifth year in a row that Mississippian adults have topped this list, and the percentage of overweight children in Mississippi is a full 6.9 percent higher than second place, the largest margin between state rankings by far. Over 40% of Mississippi's children are obese.

Health issues linked to obesity are numerous and severe. Increased risk for heart disease, stroke, and type 2 diabetes (all major drivers to the nation's skyrocketing healthcare costs) are all directly associated with weight problems. Recent studies on overweight children have revealed correlations to depression, increased likeliness to miss school, and lowered academic performance in school.

2. Scope of the Program

- Multistate Extension

V(D). Planned Program (Assumptions and Goals)**1. Assumptions made for the Program**

Ameliorating childhood obesity requires a multifaceted approach including programming for both children, youth, and adults. (Children often cannot change their nutrition and dietary habits unless their adult caretakers also change.) The problem must be addressed in various media and methods, it must focus on both diet and exercise, and it must be comprehensive in nature.

2. Ultimate goal(s) of this Program

To reduce the increasing rate of childhood obesity.

To reduce the number of obese children 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
2011	3.0	0.0	0.0	0.0
2012	3.0	0.0	0.0	0.0
2013	3.0	0.0	0.0	0.0
2014	3.0	0.0	0.0	0.0
2015	3.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities will include almost all types of media and educational activities. Courses on nutrition labeling, preparing healthy meals by reducing fat and calories, exercise, and many other topics will be provided for adults. Classes and other activities both in and out of school on diet and exercise will be provided for children/youth. These programs will complement programs offered by schools and other organizations.

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"> ● Education Class ● Workshop ● Demonstrations 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● TV Media Programs ● Web sites

3. Description of targeted audience

The primary audience for this program includes almost one million obese Mississippians.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	8000	6000	14000	10000
2012	8000	6000	14000	10000

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2013	8000	6000	14000	10000
2014	8000	6000	14000	10000
2015	8000	6000	14000	10000

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	2	2
2012	0	2	2
2013	0	2	2
2014	0	2	2
2015	0	2	2

V(H). State Defined Outputs

1. Output Target

- Number of people attending workshops, short courses, etc.

2011:8500 2012:8500 2013:8500 2014:8500 2015:8500

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of people reporting a positive change in at least one behavior related to obesity (increase level of regular exercise, decrease in caloric intake, increase in percentage of fruits and vegetables in diet).
2	Number of people reporting lowered body mass index.

Outcome # 1

1. Outcome Target

Number of people reporting a positive change in at least one behavior related to obesity (increase level of regular exercise, decrease in caloric intake, increase in percentage of fruits and vegetables in diet).

2. Outcome Type : Change in Knowledge Outcome Measure

2011:1800 2012:1800 2013:1800 2014:1800 2015:1800

3. Associated Knowledge Area(s)

- 704 - Nutrition and Hunger in the Population
- 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Number of people reporting lowered body mass index.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:1400 2012:1400 2013:1400 2014:1400 2015:1400

3. Associated Knowledge Area(s)

- 704 - Nutrition and Hunger in the Population
- 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)

Description

Obesity is very strongly linked with poverty and ethnicity. Cultural habits will have to be changed, which can be a tedious process.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- Comparisons between program participants (individuals, group, organizations) and non-participants

Description

Some programming efforts have well-established evaluation criteria. These will be monitored and reported.

2. Data Collection Methods

- Sampling
- On-Site
- Observation
- Other (Real measurements (e.g., weight))

Description

Participants will report diet and exercise habits on surveys. Some efforts will include physical measurements.

V(A). Planned Program (Summary)**Program # 22****1. Name of the Planned Program**

Food Safety

2. Brief summary about Planned Program

This program is concerned with ensuring a safe food supply for Mississippians.

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 : No

V(B). Program Knowledge Area(s)**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
503	Quality Maintenance in Storing and Marketing Food Products	0%		10%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	10%		0%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	90%		90%	
	Total	100%		100%	

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

Under the Mississippi Food Code, anyone serving food for pay is required to have a permit to operate their facility. As part of the permit, facilities are required to show documentation of food safety knowledge. This requirement applies to commercial, institutional, catering and other foodservice establishments in Mississippi. The required training leads to cleaner and safer facilities and employees who have an increased knowledge of how food becomes unsafe and what groups are at an increased risk for foodborne illnesses. Cleaner and safer facilities, combined with routine inspection by the Mississippi Department of Health reduce the risk of contamination by food to the Mississippi population.

2. Scope of the Program

- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)**1. Assumptions made for the Program**

The primary educational programming is intended for foodservice managers. The managers are expected to provide instruction to other employees at their respective foodservice establishments. It is assumed that they do so.

It is also assumed that if the foodservice establishments implement the handling techniques stressed

through the course, food safety will be improved.

2. Ultimate goal(s) of this Program

To reduce the incidence of food-borne illness.

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
2011	3.0	0.0	1.0	0.0
2012	3.0	0.0	1.0	0.0
2013	3.0	0.0	1.0	0.0
2014	3.0	0.0	1.0	0.0
2015	3.0	0.0	1.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Mississippi State University Extension Service(MSU-ES), in partnership with the Mississippi Restaurant and Hospitality Association, the National Restaurant Association, and the Mississippi State Department of Health, provides the primary food safety management certification course used in Mississippi. The ServSafe program is an 8 to 16 hour face-to-face training with a national certification offered by the National Restaurant Association Educational Foundation. Certification lasts for a five-year period. MSU-ES offers both an 8-hour training module, for those individuals who are recertifying or have a background in food safety, and a 16-hour training module for those who are new to food safety management or need additional time for training and instruction. It is the 16-hour training that is unique to MSU-ES and this extended training format continues to benefit many individuals who request a more in-depth training.

Key Training Areas Include:

The Food Safety Challenge

- Providing Safe Food
- The Microworld
- Contamination and Food Allergies
- The Safe Food Handler

The Flow of Food Through the Operation

- Purchasing, Receiving, and Storage
- Preparation
- Service

Food Safety Management Systems, Facilities, and Pest Management

- Food Safety Management Systems
- Sanitary Facilities and Equipment
- Cleaning and Sanitizing
- Integrated Pest Management

Food Safety Regulations and Employee Training

Food Safety Regulations and Standards
Employee Food Safety Training

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"> • Education Class • Workshop • Demonstrations 	<ul style="list-style-type: none"> • Newsletters • Web sites

3. Description of targeted audience

MSU-ES employees provide the course to managers, owners, and foodservice employees from a variety of foodservice settings, including commercial restaurants, hospitals, school foodservice, childcare centers, and other locations where food safety policies and procedures are required and necessary to protect public health.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	16000	30000	13000	22000
2012	16000	30000	13000	22000
2013	16000	30000	13000	22000
2014	16000	30000	13000	22000
2015	16000	30000	13000	22000

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	10	2	12
2012	10	2	12
2013	10	2	12
2014	10	2	12
2015	10	2	12

V(H). State Defined Outputs

1. Output Target

- Number of people attending certification courses.

2011:500

2012:500

2013:500

2014:500

2015:500

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of foodservice professionals achieving required certification in food handling techniques.

Outcome # 1

1. Outcome Target

Number of foodservice professionals achieving required certification in food handling techniques.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:450 2012:450 2013:450 2014:450 2015:450

3. Associated Knowledge Area(s)

- 503 - Quality Maintenance in Storing and Marketing Food Products
- 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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Public Policy changes
- Competing Programmatic Challenges

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

- After Only (post program)

Description

Food safety certification test.

2. Data Collection Methods

- Whole population
- On-Site
- Tests

Description

Certification test given on-site.

V(A). Planned Program (Summary)**Program # 23****1. Name of the Planned Program**

Global Food Security and Hunger

2. Brief summary about Planned Program

This program will be a new program based on a combination of parts and/or whole of several currently existing programs. Research and extension personnel are currently working together to determine exactly how this program will be organized and fit in with other programs. It is expected that work will be conducted in this program as the details or the research/extension integration are being developed.

3. Program existence : New (One year or less)

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 : No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	10%		10%	
204	Plant Product Quality and Utility (Preharvest)	15%		15%	
205	Plant Management Systems	30%		30%	
307	Animal Management Systems	30%		30%	
308	Improved Animal Products (Before Harvest)	15%		15%	
	Total	100%		100%	

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

World population growth requires an increase in agricultural production. The extent that U.S. agriculture is able to provide this increase is important to both the domestic and international economies.

2. Scope of the Program

- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)**1. Assumptions made for the Program**

It is assumed that the global population will continue to provide an increased demand for food and increased agricultural production will be needed.

2. Ultimate goal(s) of this Program

To increase the capacity of U.S. agriculture to meet the growing food demand.

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
2011	0.0	0.0	0.0	0.0
2012	0.0	0.0	0.0	0.0
2013	0.0	0.0	0.0	0.0
2014	0.0	0.0	0.0	0.0
2015	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research and extension programming to improve the ability of Mississippi producers to assist in a national effort to increase U.S. agricultural production and improve global capacity to meet the growing food demand.

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"> ● Education Class ● Workshop ● Demonstrations 	<ul style="list-style-type: none"> ● Newsletters ● Web sites

3. Description of targeted audience

The audience in Mississippi agricultural producers.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	0	0	0	0
2012	0	0	0	0
2013	0	0	0	0
2014	0	0	0	0

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2015	0	0	0	0

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

2011:0 2012:0 2013:0 2014:0 2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0

V(H). State Defined Outputs

1. Output Target

- Number of people attending workshops, short courses, etc.

2011:0 2012:0 2013:0 2014:0 2015:0

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of producers adopting new practices based on research/extension recommendations.
2	Number of producers reporting increased revenue/decreased expenses due to practices changed.

Outcome # 1

1. Outcome Target

Number of producers adopting new practices based on research/extension recommendations.

2. Outcome Type : Change in Action Outcome Measure

2011:0	2012:0	2013:0	2014:0	2015:0
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3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of producers reporting increased revenue/decreased expenses due to practices changed.

2. Outcome Type : Change in Condition Outcome Measure

2011:0	2012:0	2013:0	2014:0	2015:0
---------------	---------------	---------------	---------------	---------------

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)

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 Programmatic Challenges

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Time series (multiple points before and after program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- Telephone
- On-Site
- Observation

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)**Program # 24****1. Name of the Planned Program**

Climate Change

2. Brief summary about Planned Program

Changes in climate, including global warming, have led to a need to develop an agriculture system that maintains high productivity in the face of climate changes and reduce greenhouse gas emissions.

3. Program existence : New (One year or less)

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 : No

V(B). Program Knowledge Area(s)**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
111	Conservation and Efficient Use of Water	15%		15%	
132	Weather and Climate	85%		85%	
	Total	100%		100%	

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

This program will be a new program. Research and extension personnel are currently working together to determine exactly how this program will be organized and fit in with other programs. It is expected that work will be conducted in this program as the details of the research/extension integration are being developed.

2. Scope of the Program

- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)**1. Assumptions made for the Program**

It is assumed that climate changes will require changes in agricultural systems in order to maintain and increase production levels.

2. Ultimate goal(s) of this Program

To develop an agricultural production system that is able to adapt to changing environments, sustain economic vitality, and take advantage of opportunities offered by climate change mitigation 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
2011	0.0	0.0	0.0	0.0
2012	0.0	0.0	0.0	0.0
2013	0.0	0.0	0.0	0.0
2014	0.0	0.0	0.0	0.0
2015	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research and extension efforts on adapting to climate change and decreasing greenhouse emissions.

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"> • Education Class • Workshop • Demonstrations 	<ul style="list-style-type: none"> • Newsletters • Web sites

3. Description of targeted audience

Agricultural producers and agricultural industry supporting production agriculture.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	0	0	0	0
2012	0	0	0	0
2013	0	0	0	0
2014	0	0	0	0
2015	0	0	0	0

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

2011:0**2012:0****2013:0****2014:0****2015:0****3. Expected Peer Review Publications**

Year	Research Target	Extension Target	Total
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0

V(H). State Defined Outputs**1. Output Target**

- Number of people attending workshops, short courses, etc.

2011:0**2012:0****2013:0****2014:0****2015:0**

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of producers adopting new practices based on research/extension recommendations.
2	Number of producers reporting increased income/decreased expenses based on practice changes.

Outcome # 1

1. Outcome Target

Number of producers adopting new practices based on research/extension recommendations.

2. Outcome Type : Change in Action Outcome Measure

2011:0	2012:0	2013:0	2014:0	2015:0
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3. Associated Knowledge Area(s)

- 111 - Conservation and Efficient Use of Water
- 132 - Weather and Climate

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of producers reporting increased income/decreased expenses based on practice changes.

2. Outcome Type : Change in Condition Outcome Measure

2011:0	2012:0	2013:0	2014:0	2015:0
---------------	---------------	---------------	---------------	---------------

3. Associated Knowledge Area(s)

- 111 - Conservation and Efficient Use of Water
- 132 - Weather and Climate

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.)
- Appropriations changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- Telephone
- On-Site
- Observation

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)**Program # 25****1. Name of the Planned Program**

Sustainable Energy

2. Brief summary about Planned Program

This program will be a new program based on a combination of parts and/or whole of several currently existing programs. Research and extension personnel are currently working together to determine exactly how this program will be organized and fit in with other programs. It is expected that work will be conducted in this program as the details of the research/extension integration are being developed.

3. Program existence : New (One year or less)

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 : No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	20%		20%	
402	Engineering Systems and Equipment	70%		70%	
403	Waste Disposal, Recycling, and Reuse	10%		10%	
	Total	100%		100%	

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

Energy costs and availability have led to a need to develop biomass used for biofuels, design optimum forest products and crops for bioenergy production, and produce value-added bio-based industrial products.

2. Scope of the Program

- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)**1. Assumptions made for the Program**

It is assumed that alternative fuel sources will become more affordable as new materials and processes are developed.

2. Ultimate goal(s) of this Program

To decrease the dependence on petroleum-based fuel sources.

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
2011	0.0	0.0	0.0	0.0
2012	0.0	0.0	0.0	0.0
2013	0.0	0.0	0.0	0.0
2014	0.0	0.0	0.0	0.0
2015	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research and extension activities will be carried out with the goal of developing biomass used for biofuels, design optimum forest products and crops for bioenergy production, and produce value-added bio-based industrial products.

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"> • Education Class • Workshop • Demonstrations 	<ul style="list-style-type: none"> • Newsletters • Web sites

3. Description of targeted audience

Target audience will be agricultural producers and energy developers.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	0	0	0	0
2012	0	0	0	0
2013	0	0	0	0
2014	0	0	0	0
2015	0	0	0	0

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

2011:0

2012:0

2013:0

2014:0

2015:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0

V(H). State Defined Outputs

1. Output Target

- Number of people attending workshops, short courses, etc.

2011:0

2012:0

2013:0

2014:0

2015:0

V(I). State Defined Outcome

O. No.	Outcome Name
1	Number of producers adopting new practices due to research/extension recommendations.

Outcome # 1

1. Outcome Target

Number of producers adopting new practices due to research/extension recommendations.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:0	2012:0	2013:0	2014:0	2015:0
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3. Associated Knowledge Area(s)

- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 402 - Engineering Systems and Equipment
- 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
- Public Policy changes
- Government Regulations
- Competing Programmatic Challenges

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- Telephone
- On-Site

- Observation

Description

{NO DATA ENTERED}