

2012 Langston University Combined Research and Extension Plan of Work

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I. Plan Overview

1. Brief Summary about Plan Of Work

We live in an age of soaring technological advances impacting arguably every aspect of our lives. From high definition digital television, to MP3s, to Nooks, to I-Pads, to i-Pods, to Blackberries, to satellite radio, to wireless computer links to GPS enhanced vehicles, and video cellular phones, advances in technology have been interwoven into the very fabric of society here in the United States and abroad.

However, as is often the case, there are exceptions to the rules. Even as just down the street from a stately highrise corporate building there stands an extremely modest single family dwelling; and just down the road past the columns of cellular towers there lies an area with little or no cellular reception; and just around the bend from the two thousand acre conventional wheat farms and cattle ranches with the most recent advances in Precision Agriculture and Best Management Practices and hundreds of acres in the Conservation Reserve Program (CRP), there lie the small farms, many standing on the other side of the great digital divide trying to sustain themselves and survive.

The Research and Cooperative Extension Program at Langston University is dedicated to serving all citizens of Oklahoma. However, our programs and methods of delivery are often very appealing to the under-served and under-represented diverse populations of the state, especially small farmers. Our Cooperative Extension and Outreach efforts serve as vehicles for taking scholarly, peer-reviewed and stakeholder-driven research findings, demonstrations and education activities to the citizens of Oklahoma; many of whom still dwell on the other side of the great digital divide.

Included in Langston University's 2012-2016 combined Research and Extension Plan of Work are our goals and expected outcomes for the next five (5) years, as well as the process for moving along the links in the logic model chain to achieve targeted outcomes and impacts. Projected outcomes and impacts will include providing deliverables that contribute to enhancing the economic status, health and quality of life for the citizens of Oklahoma; and to make them more competitive as viable producers in niche markets and in the greater global agricultural arena.

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	0.0	18.0	0.0	22.0
2013	0.0	18.0	0.0	22.0
2014	0.0	18.0	0.0	22.0
2015	0.0	18.0	0.0	22.0
2016	0.0	18.0	0.0	22.0

II. Merit Review Process

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

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

2. Brief Explanation

Currently, all new Extension and Research programs are reviewed by a respective panel composed of colleagues and managers. This process was in place during the last 5-Year Plan of Work.

Research programs have received more external review than Extension programs but a process will be put in place to increase external merit review for Extension programs.

All approved programs will be evaluated against the logic model to determine how inputs will lead to outputs and outcomes.

III. Evaluation of Multis & Joint Activities

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

The planned programs were strongly influenced by stakeholders, researchers, Extension personnel and others who identified the most critical issues to be addressed.

Surveys, questionnaires and in-person feedback from stakeholders have provided invaluable information that has been used in planning programs and in determining which direction programs will proceed.

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

In general, all of our programs reach under-served and under-represented groups. The following are examples of the work being performed.

Program 2. Many minority children in rural and inner city areas have been reached and gotten involved in 4-H.

Program 3. Minority children have been enrolled in this program and had their reading skills enriched both during the summer months and after school during the regular school year.

Program 4. This program has reached elderly minorities, presented them with tips for good nutrition and taught them age-appropriate exercise techniques.

Program 8. Small fish producers are seeing the value of working with alternative fish species such as the buffalo.

Program 11. Goat producers are able to go online and access valuable instructional

modules.

Program 12. Many small to medium-sized producers have received information and/or hands-on instructions to enhance their operations and improve the value of their products.

Program 14. Small fish producers have benefited from selling their fish directly to the public.

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

Planned programs have specific outputs that will lead to outcomes and eventually to impacts.

Some outcomes will be realized sooner than others. For each planned program, progress will be made throughout each year towards outcomes and impacts.

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

Research and Extension programs at Langston University have worked in union for many years to make our program more efficient and cost-effective. The planned programs included in this Plan of Work will reflect the ongoing commitment of joint efforts between research and extension programs to ensure efficient and effective programs.

IV. Stakeholder Input

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

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

Brief explanation.

Targeted stakeholder groups are sent surveys, contacted via e-mail and complete surveys during field days.

The general public receives surveys during field days and has opportunities to offer input via the web site and during field days, workshops and on-farm visits.

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

1. Method to identify individuals and groups

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

Brief explanation.

Annual Goat and Aquaculture Field Days are held to educate producers, highlight and disseminate research findings. Attendees are requested to complete surveys to be used in planning future research projects and workshops. Telephone surveys are also used to gather stakeholder input.

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

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Meeting with the general public (open meeting advertised to all)
- Survey of the general public
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Survey specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public
- Survey of selected individuals from the general public
- Other (Telephone surveys of stakeholders.)

Brief explanation.

Stakeholder information is obtained from surveys and session evaluations during demonstrations, seminars, workshops and field days.

3. A statement of how the input will be considered

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

Brief explanation.

In general, our research and extension efforts are stakeholder-driven. 4-H programs and activities are tailored to meet the needs of our stakeholders. Aquaculture projects, fact sheets and field days are designed to meet the needs and concerns of our stakeholders. Suggestions from stakeholders via surveys and verbal comments during goat field days are reviewed and some are incorporated into future selected field day topics and field day events. At the requests of stakeholders, a youth program component was incorporated into the Annual Goat Field Day.

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Global Food Security and Hunger: Enhanced Goat Production in the South-Central United
2	Childhood Obesity: 4-H Clubs
3	Childhood Obesity: Extended Education
4	Food Safety: Family and Consumer Sciences
5	Food Safety: Food and Nutrition
6	Global Food Security and Hunger: Biotechnology
7	Climate Change: Water Gardens (Aquaculture)
8	Global Food Security and Hunger: Alternative Species (Aquaculture)
9	Global Food Security and Hunger: Fishery Management (Aquaculture)
10	Global Food Security and Hunger: Sustainable Internal Parasite Control for Small Ruminants
11	Global Food Security and Hunger: Goat Internet Website
12	Global Food Security and Hunger: Development of New Dairy Goat Products
13	Global Food Security and Hunger: Demonstration Clinic: Artificial Insemination for Goats
14	Global Food Security and Hunger: Fish Marketing (Aquaculture)
15	Global Food Security and Hunger: Meat Buck Performance Test
16	Food Safety: Goat Dairy Herd Improvement (DHI) Laboratory
17	Global Food Security and Hunger: Sustainable Energy: Phytoplankton (Aquaculture)

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Global Food Security and Hunger: Enhanced Goat Production in the South-Central United States

2. Brief summary about Planned Program

This program will address factors impacting the level of goat production and the efficiency of goat production systems. Areas to be addressed will include nutrition, management, health and product utilization (including meat and milk). This program is expected to produce discoveries with positive impacts for goat producers and consumers.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term (One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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
302	Nutrient Utilization in Animals		30%		30%
307	Animal Management Systems		30%		30%
313	Internal Parasites in Animals		20%		20%
502	New and Improved Food Products		20%		20%
	Total		100%		100%

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

1. Situation and priorities

The rapidly increasing number of goats in the United States has led to a growing importance of goat production and goat products in the United States economy. Goat production is becoming an evermore important component of the production system of many small and/or limited resource producers.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant or increase. Enhanced goat production methods will be discovered.

2. Ultimate goal(s) of this Program

To develop more efficient production systems for goat 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
2012	0.0	2.0	0.0	3.0
2013	0.0	2.0	0.0	3.0
2014	0.0	2.0	0.0	3.0
2015	0.0	2.0	0.0	3.0
2016	0.0	2.0	0.0	3.0

V(F). Planned Program (Activity)

1. Activity for the Program

We will publish scientific articles, present research papers at scientific meetings, with newsletters and present workshops and demonstrations.

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

Extension

Direct Methods	Indirect Methods
<input checked="" type="checkbox"/> Education Class <input checked="" type="checkbox"/> Workshop <input type="checkbox"/> Group Discussion <input type="checkbox"/> One-on-One Intervention <input checked="" type="checkbox"/> Demonstrations <input checked="" type="checkbox"/> Other 1 (Field Days) <input type="checkbox"/> Other 2	<input type="checkbox"/> Public Service Announcement <input type="checkbox"/> Billboards <input checked="" type="checkbox"/> Newsletters <input type="checkbox"/> TV Media Programs <input checked="" type="checkbox"/> Web sites <input checked="" type="checkbox"/> Other 1 (Proceedings) <input type="checkbox"/> Other 2

3. Description of targeted audience

All present/potential goat producers in Oklahoma and surrounding states.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	150	500	0	0
2013	150	500	0	0
2014	150	500	0	0
2015	150	500	0	0
2016	150	500	0	0

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

2012:0 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	2	2	4
2013	1	1	2

Year	Research Target	Extension Target	Total
2014	2	2	4
2015	2	1	3
2016	2	1	3

V(H). State Defined Outputs

1. Output Target

- Number of Research projects completed on Enhanced Goat Products

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of goat producers learning new goat production techniques.
2	Number of goat producers using new goat production techniques.

Outcome # 1

1. Outcome Target

Number of goat producers learning new goat production techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:200

2013:200

2014:200

2015:200

2016:200

3. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 307 - Animal Management Systems
- 313 - Internal Parasites in Animals
- 502 - New and Improved Food Products

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of goat producers using new goat production techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:20

2013:20

2014:20

2015:20

2016:20

3. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 307 - Animal Management Systems
- 313 - Internal Parasites in Animals
- 502 - New and Improved Food Products

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Drought would affect the ability of goat producers to raise their own forages and increase production costs. Disease or serious parasite infestations could devastate the herds of producers and our research efforts.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

Each year, the program will be evaluated for its merit and contributions to stakeholders.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Surveys will be conducted during field days and workshops.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Childhood Obesity: 4-H Clubs

2. Brief summary about Planned Program

This program will engage youth as active partners and leaders who can help move their communities forward.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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

Youth, especially in rural areas, need safe, wholesome programs that teach positive values and help youth develop positive lifelong skills such as leadership and public speaking.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

To develop positive attributes in youth such as healthy lifestyles, good citizenship, leadership and other life skills.

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
2012	0.0	2.0	0.0	0.0
2013	0.0	2.0	0.0	0.0
2014	0.0	2.0	0.0	0.0
2015	0.0	2.0	0.0	0.0
2016	0.0	2.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

The 4-H program will conduct meetings, training sessions, classes and use other learning vehicles to help youth develop life skills.

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

Extension	
Direct Methods	Indirect Methods

<input checked="" type="checkbox"/> Education Class	<input type="checkbox"/> Public Service Announcement
<input type="checkbox"/> Workshop	<input type="checkbox"/> Billboards
<input type="checkbox"/> Group Discussion	<input checked="" type="checkbox"/> Newsletters
<input type="checkbox"/> One-on-One Intervention	<input type="checkbox"/> TV Media Programs
<input checked="" type="checkbox"/> Demonstrations	<input checked="" type="checkbox"/> Web sites
<input checked="" type="checkbox"/> Other 1 (Meetings)	<input type="checkbox"/> Other 1
<input type="checkbox"/> Other 2	<input type="checkbox"/> Other 2

3. Description of targeted audience

Youth in Oklahoma who qualify for the program.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	0	0	200	200
2013	0	0	200	200
2014	0	0	200	200
2015	0	0	200	200
2016	0	0	200	200

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

2012:0 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Number of of Research Projects completed in the 4-H Club Program.

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of youth learning new informations from the 4-H Club Program.
2	Number of youth using information learned in the 4-H Club program.
3	Youth who develop life skills.

Outcome # 1

1. Outcome Target

Number of youth learning new informations from the 4-H Club Program.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:200

2013:200

2014:200

2015:200

2016:200

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of youth using information learned in the 4-H Club program.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:200

2013:200

2014:200

2015:200

2016:200

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Youth who develop life skills.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:200

2013:200

2014:200

2015:200

2016:200

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

If appropriations for 4-H are reduced, it will affect efforts.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

A projected number of 4-H Clubs has been targeted for selected counties. We will compare actual numbers with projections.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Observations are used to compare actual numbers of 4-H Clubs to projections. Also, pre- and post- tests will be used to evaluate effectiveness of activities.

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Childhood Obesity: Extended Education

2. Brief summary about Planned Program

The Extended Education Program is designed to help students who need extra assistance in reading, writing, math and science. This program supplements knowledge learned in the regular school classroom.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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

Many Oklahoma students in grades K through five are unable to keep up with the progression of reading and math classes taught in the regular school classroom. Consequently, these students are falling further behind academically. The extended Education program offers help and hope for these students.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will be constant.

2. Ultimate goal(s) of this Program

To help program participants develop learning skills in reading, writing, math and science that help them to excel in these areas.

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
2012	0.0	1.1	0.0	0.0
2013	0.0	1.1	0.0	0.0
2014	0.0	1.1	0.0	0.0
2015	0.0	1.1	0.0	0.0
2016	0.0	1.1	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Extension personnel will conduct classes and mini camps in reading, writing, math and science for youth in Oklahoma.

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

Extension	
Direct Methods	Indirect Methods

<input checked="" type="checkbox"/> Education Class	<input type="checkbox"/> Public Service Announcement
<input type="checkbox"/> Workshop	<input type="checkbox"/> Billboards
<input type="checkbox"/> Group Discussion	<input type="checkbox"/> Newsletters
<input type="checkbox"/> One-on-One Intervention	<input type="checkbox"/> TV Media Programs
<input type="checkbox"/> Demonstrations	<input type="checkbox"/> Web sites
<input checked="" type="checkbox"/> Other 1 (Mini camps)	<input checked="" type="checkbox"/> Other 1 (Flyers)
<input type="checkbox"/> Other 2	<input checked="" type="checkbox"/> Other 2 (Worksheets)

3. Description of targeted audience

Youth in Oklahoma.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	0	0	80	200
2013	0	0	80	200
2014	0	0	80	200
2015	0	0	80	200
2016	0	0	80	200

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

2012:0 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	1	1
2013	0	0	0
2014	0	1	0
2015	0	0	0
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Number of Research Projects completed on Extended Education.

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of youth taught extended education techniques.
2	Number of youth grasping and using extended education techniques.
3	Number of youth who improved their academic performance and catch up in the classroom.

Outcome # 1

1. Outcome Target

Number of youth taught extended education techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:80

2013:80

2014:80

2015:80

2016:80

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of youth grasping and using extended education techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:80

2013:80

2014:80

2015:80

2016:80

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Number of youth who improved their academic performance and catch up in the classroom.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:70 2013:70 2014:70 2015:70 2016:70

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

If school systems implement longer school days and longer school years, it could affect outcomes.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

Pre- and post-tests will be conducted to evaluate levels of learning.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Data on pre- and post-tests will be collected and analyzed.

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Food Safety: Family and Consumer Sciences

2. Brief summary about Planned Program

The Family and Consumer Sciences Program recognizes the family as being the cornerstone of a healthy society and it is committed to improving the quality of life and well-being of families. This program assists families in the areas of food and nutrition, parenting, clothing, money management, personal development and other family-related areas.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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
801	Individual and Family Resource Management		100%		0%
	Total		100%		0%

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

1. Situation and priorities

Many of the challenges we now face as a society have roots in the family. Approximately half of all marriages today end in divorce. Single parent homes have become the norm rather than the exception. Oklahoma is among the leader in states where grandparents are raising their grandchildren. Family and Consumer Sciences resources and involvement are needed and in demand.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

To help participating families in Oklahoma strengthen their marital bonds, develop better money management skills and make more informed consumer decisions.

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
2012	0.0	0.5	0.0	0.0
2013	0.0	0.5	0.0	0.0
2014	0.0	0.5	0.0	0.0
2015	0.0	0.5	0.0	0.0
2016	0.0	0.5	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Extension personnel will conduct classes, seminars, workshops and forums to share Family and Consumer Sciences resources.

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

Extension	
Direct Methods	Indirect Methods

<input checked="" type="checkbox"/> Education Class	<input type="checkbox"/> Public Service Announcement
<input checked="" type="checkbox"/> Workshop	<input type="checkbox"/> Billboards
<input type="checkbox"/> Group Discussion	<input type="checkbox"/> Newsletters
<input type="checkbox"/> One-on-One Intervention	<input type="checkbox"/> TV Media Programs
<input type="checkbox"/> Demonstrations	<input type="checkbox"/> Web sites
<input checked="" type="checkbox"/> Other 1 (Forums)	<input checked="" type="checkbox"/> Other 1 (Flyers)
<input type="checkbox"/> Other 2	<input checked="" type="checkbox"/> Other 2 (Handouts)

3. Description of targeted audience

Citizens of Oklahoma.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	100	200	200	220
2013	100	130	200	220
2014	100	130	200	220
2015	100	130	200	220
2016	100	130	200	220

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

2012:0 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	1	1
2013	0	0	0
2014	0	0	0
2015	0	1	1
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Number of Research Projects completed on Family and Consumer Sciences

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of participants who learned about Family and Consumer Sciences.
2	Number of participants who used Family and Consumer Sciences resources.
3	Number of families that improved their quality of life at least in part from this program.

Outcome # 1

1. Outcome Target

Number of participants who learned about Family and Consumer Sciences.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:200

2013:200

2014:200

2015:200

2016:200

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of participants who used Family and Consumer Sciences resources.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:50

2013:50

2014:50

2015:50

2016:50

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Number of families that improved their quality of life at least in part from this program.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:15

2013:15

2014:15

2015:15

2016:15

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Society's view and definitions of a family could affect outcomes.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

Selected families will be observed and data collected to evaluate the effectiveness of this program.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Data will be collected on nutrition planning and money management skills development.

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Food Safety: Food and Nutrition

2. Brief summary about Planned Program

The Food and Nutrition Program will join efforts with our newly acquired EFNEP Program to provide healthy nutrition education to needy citizens of Oklahoma. Elderly citizens in rural areas will receive special focus.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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
504	Home and Commercial Food Service		100%		0%
	Total		100%		0%

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

1. Situation and priorities

Proper nutrition is an important component of a healthy lifestyle. Oklahoma rates high compared to other states in obesity among its populace. Food and nutrition training are needed to reduce the obesity numbers and the diseases that often accompany this condition.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

To help participants develop healthy nutrition and exercise regiments that result in healthier lives.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	0.0	1.0	0.0	0.0
2013	0.0	1.0	0.0	0.0
2014	0.0	1.0	0.0	0.0
2015	0.0	1.0	0.0	0.0
2016	0.0	1.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Extension personnel will conduct classes, seminars, workshops and hold community forums to teach healthy food and nutrition concepts.

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

Extension	
Direct Methods	Indirect Methods

<input checked="" type="checkbox"/> Education Class	<input type="checkbox"/> Public Service Announcement
<input checked="" type="checkbox"/> Workshop	<input type="checkbox"/> Billboards
<input type="checkbox"/> Group Discussion	<input type="checkbox"/> Newsletters
<input type="checkbox"/> One-on-One Intervention	<input type="checkbox"/> TV Media Programs
<input type="checkbox"/> Demonstrations	<input type="checkbox"/> Web sites
<input checked="" type="checkbox"/> Other 1 (Seminars)	<input checked="" type="checkbox"/> Other 1 (Flyers)
<input checked="" type="checkbox"/> Other 2 (Forums)	<input checked="" type="checkbox"/> Other 2 (Handouts)

3. Description of targeted audience

Citizens of Oklahoma

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	100	200	100	200
2013	100	200	100	200
2014	100	200	100	200
2015	100	200	200	250
2016	100	200	200	250

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

2012:0 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	0	0
2014	0	1	0
2015	0	0	0
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Number of Research Projects competed on Food and Nutrition.

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of participants who learned about food and nutrition.
2	Number of participants who used knowledge/guidelines presented during food and nutrition sessions.
3	Number of participants who improve their lifestyles by following food and nutrition guidelines.

Outcome # 1

1. Outcome Target

Number of participants who learned about food and nutrition.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:200

2013:200

2014:200

2015:200

2016:200

3. Associated Knowledge Area(s)

- 504 - Home and Commercial Food Service

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of participants who used knowledge/guidelines presented during food and nutrition sessions.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:50

2013:50

2014:50

2015:50

2016:50

3. Associated Knowledge Area(s)

- 504 - Home and Commercial Food Service

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Number of participants who improve their lifestyles by following food and nutrition guidelines.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:10

2013:10

2014:10

2015:15

2016:15

3. Associated Knowledge Area(s)

- 504 - Home and Commercial Food Service

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Updated government regulations could affect the nutritional guidelines and parameters set for this program.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

Participants will be tested for weight loss/gain and body mass index.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Selected participants will be screened for weight loss/gain and body mass index.

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Global Food Security and Hunger: Biotechnology

2. Brief summary about Planned Program

The genomic research component of this program is targeting peanut plant organs and seed genes for yield and nutritional quality improvement. The program is seeking to use biotechnology to produce edible peanuts that are high in nutritional quality and possibly void of the allergens that prevent many people from consuming peanuts or food cooked in peanut oil.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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
201	Plant Genome, Genetics, and Genetic Mechanisms		100%		100%
	Total		100%		100%

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

1. Situation and priorities

Peanuts are the most popular legume in the United States for human consumption. However, peanuts contain substances that are allergens for many people. These allergens can cause illness and in some cases are lethal.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant or increase.

2. Ultimate goal(s) of this Program

To identify and separate plant genes that can be used to produce genetically superior peanuts and other cash crops.

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
2012	0.0	0.2	0.0	1.0
2013	0.0	0.2	0.0	1.0
2014	0.0	0.2	0.0	1.0
2015	0.0	0.2	0.0	1.0
2016	0.0	0.2	0.0	1.0

V(F). Planned Program (Activity)

1. Activity for the Program

Researchers will develop a local peanut nucleotide database and build a bioinformatics pipeline for peanut gene discovery.

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

Extension	
Direct Methods	Indirect Methods

<input checked="" type="checkbox"/> Education Class	<input type="checkbox"/> Public Service Announcement
<input checked="" type="checkbox"/> Workshop	<input type="checkbox"/> Billboards
<input type="checkbox"/> Group Discussion	<input type="checkbox"/> Newsletters
<input type="checkbox"/> One-on-One Intervention	<input type="checkbox"/> TV Media Programs
<input type="checkbox"/> Demonstrations	<input checked="" type="checkbox"/> Web sites
<input type="checkbox"/> Other 1	<input checked="" type="checkbox"/> Other 1 (Research papers)
<input type="checkbox"/> Other 2	<input type="checkbox"/> Other 2

3. Description of targeted audience

All peanut producers in Oklahoma

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	25	100	0	0
2013	25	100	0	0
2014	25	100	0	0
2015	25	100	0	0
2016	25	100	0	0

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

2012:1 2013:0 2014:1 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	1	1	2
2013	0	0	0
2014	1	1	2
2015	1	1	2
2016	1	1	2

V(H). State Defined Outputs

1. Output Target

- Number of Research Projects completed on Biotechnology.

2012:1

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of farmers learning about the peanut nucleotide database.
2	Number of farmers using the peanut nucleotide database.
3	Farmers who use the peanut nucleotide database or new peanut gene discoveries to improve their peanut production system.

Outcome # 1

1. Outcome Target

Number of farmers learning about the peanut nucelotide database.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:20

2013:20

2014:20

2015:20

2016:20

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of farmers using the peanut nucleotide database.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:15

2013:15

2014:15

2015:15

2016:15

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Farmers who use the peanut nucleotide database or new peanut gene discoveries to improve their peanut production system.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:5

2013:10

2014:10

2015:10

2016:10

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

If the public's view on biotechnology changes, funding levels may be affected.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

Developed peanut genetic lines will be monitored and tested for stability

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Tests will be conducted with developed peanut lines that are free of allergens for human allergic responses.

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Climate Change: Water Gardens (Aquaculture)

2. Brief summary about Planned Program

Some Oklahoma fish farmers are beginning to produce fish for the growing water garden industry. The activities occurring in this program will assist home water gardeners with management practices and also assist fish farmers in production and marketing of ornamental aquatic species.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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
401	Structures, Facilities, and General Purpose Farm Supplies		100%		100%
	Total		100%		100%

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

1. Situation and priorities

Water gardens are rapidly increasing in popularity in Oklahoma. Homeowners have expressed frustration with their inability to solve water garden problems induced by system location in combination with poor husbandry and poor hygiene.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

Assist clientele in decreasing the operational costs of their water gardens.

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
2012	0.0	0.2	0.0	0.3
2013	0.0	0.2	0.0	0.3
2014	0.0	0.2	0.0	0.3
2015	0.0	0.2	0.0	0.3
2016	0.0	0.2	0.0	0.3

V(F). Planned Program (Activity)

1. Activity for the Program

Fish loading testing will be performed and fish loading modeling will be conducted. Nutrient uptake experiments will be conducted.

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

Extension	
Direct Methods	Indirect Methods

<input type="checkbox"/> Education Class	<input type="checkbox"/> Public Service Announcement
<input type="checkbox"/> Workshop	<input type="checkbox"/> Billboards
<input type="checkbox"/> Group Discussion	<input type="checkbox"/> Newsletters
<input type="checkbox"/> One-on-One Intervention	<input type="checkbox"/> TV Media Programs
<input checked="" type="checkbox"/> Demonstrations	<input type="checkbox"/> Web sites
<input checked="" type="checkbox"/> Other 1 (Field Days)	<input checked="" type="checkbox"/> Other 1 (Fact Sheets)
<input type="checkbox"/> Other 2	<input checked="" type="checkbox"/> Other 2 (User Models)

3. Description of targeted audience

All aquaculture farmers in Oklahoma.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	300	350	0	0
2013	300	350	0	0
2014	300	350	0	0
2015	300	350	0	0
2016	300	350	0	0

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

2012:0 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	1	1
2014	1	1	2
2015	1	0	1
2016	0	1	1

V(H). State Defined Outputs

1. Output Target

- Number of Research Projects completed on Water Gardens

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of farmers learning water garden techniques.
2	Number of farmers using water garden techniques.
3	Farmers who improve the water quality of their water gardens and reduce operational costs.

Outcome # 1

1. Outcome Target

Number of farmers learning water garden techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:300

2013:300

2014:300

2015:300

2016:300

3. Associated Knowledge Area(s)

- 401 - Structures, Facilities, and General Purpose Farm Supplies

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of farmers using water garden techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:100

2013:100

2014:100

2015:100

2016:100

3. Associated Knowledge Area(s)

- 401 - Structures, Facilities, and General Purpose Farm Supplies

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Farmers who improve the water quality of their water gardens and reduce operational costs.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:10

2013:10

2014:10

2015:10

2016:10

3. Associated Knowledge Area(s)

- 401 - Structures, Facilities, and General Purpose Farm Supplies

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

A prolonged drought may slow down the present growth in water garden construction in Oklahoma.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

A cost analysis will be performed to see if fish farmers have made profits with the sales of ornamental fish species.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

The portfolios of selected producers will be reviewed to determine if there is an increase in income due to sales of ornamental fish species.

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Global Food Security and Hunger: Alternative Species (Aquaculture)

2. Brief summary about Planned Program

Research with buffalo fish species under polyculture conditions will allow us to determine if we can sustainably and economically use buffalo fish to diversify fish operations. This research will benefit aquaculture producers in Oklahoma and the surrounding region.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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
307	Animal Management Systems		100%		100%
	Total		100%		100%

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

1. Situation and priorities

Pressure on domestic fish markets by foreign imports and high fuel prices are forcing catfish farmers to curtail production or diversify with alternative fish species.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

To establish sustainable alternative fish species for Oklahoma aquaculture 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
2012	0.0	0.4	0.0	0.2
2013	0.0	0.4	0.0	0.2
2014	0.0	0.4	0.0	0.2
2015	0.0	0.4	0.0	0.2
2016	0.0	0.4	0.0	0.2

V(F). Planned Program (Activity)

1. Activity for the Program

Buffalo fish species will be tested for sustainability and profitability in Oklahoma.

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

Extension	
Direct Methods	Indirect Methods

<input type="checkbox"/> Education Class	<input type="checkbox"/> Public Service Announcement
<input type="checkbox"/> Workshop	<input type="checkbox"/> Billboards
<input type="checkbox"/> Group Discussion	<input type="checkbox"/> Newsletters
<input type="checkbox"/> One-on-One Intervention	<input type="checkbox"/> TV Media Programs
<input checked="" type="checkbox"/> Demonstrations	<input type="checkbox"/> Web sites
<input checked="" type="checkbox"/> Other 1 (Field Days)	<input checked="" type="checkbox"/> Other 1 (Proceedings)
<input type="checkbox"/> Other 2	<input checked="" type="checkbox"/> Other 2 (Fact Sheets)

3. Description of targeted audience

All aquaculture farmers in Oklahoma.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	200	300	0	0
2013	200	300	0	0
2014	200	300	0	0
2015	200	300	0	0
2016	200	300	0	0

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

2012:1 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	1	1
2014	1	0	1
2015	0	1	1
2016	1	0	1

V(H). State Defined Outputs

1. Output Target

- Number of Research Projects completed on Alternative Species

2012:1

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of farmers learning alternative fish species techniques.
2	Number of farmers using alternative fish species techniques.
3	Farmers who improved their yearly income by using alternative fish species.

Outcome # 1

1. Outcome Target

Number of farmers learning alternative fish species techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:100

2013:100

2014:100

2015:100

2016:100

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of farmers using alternative fish species techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:25

2013:25

2014:20

2015:25

2016:25

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Farmers who improved their yearly income by using alternative fish species.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:20

2013:20

2014:25

2015:25

2016:25

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

A prolonged drought may adversely affect fish production by producers.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

A cost analysis will be performed to see if diversifying fish production with alternative species is financially feasible.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Alternative fish production will be tested on the campus for sustainability and potential profitability. These results will be compared to actual results of selected producers.

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Global Food Security and Hunger: Fishery Management (Aquaculture)

2. Brief summary about Planned Program

Fishery management methods will be researched for ways to increase efficiency of fishery operations. This research will include efficiency management practices under such conditions as droughts, leaks and aquatic vegetation control.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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
307	Animal Management Systems		100%		100%
	Total		100%		100%

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

1. Situation and priorities

Fishery management methods can add to or reduce production costs and affect the profitability of an operation. Proven, efficient management methods would help Oklahoma fisheries operate more cost effectively.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

To assist fish farmers in developing fishery management techniques that will reduce production costs, sustain operations and increase profits.

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
2012	0.0	0.4	0.0	0.3
2013	0.0	0.4	0.0	0.3
2014	0.0	0.4	0.0	0.3
2015	0.0	0.4	0.0	0.3
2016	0.0	0.4	0.0	0.3

V(F). Planned Program (Activity)

1. Activity for the Program

Work will be performed in fishery management under such conditions as drought, aquatic vegetation infestation and pond leaks.

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

Extension	
Direct Methods	Indirect Methods

<input checked="" type="checkbox"/> Education Class	<input type="checkbox"/> Public Service Announcement
<input checked="" type="checkbox"/> Workshop	<input type="checkbox"/> Billboards
<input type="checkbox"/> Group Discussion	<input type="checkbox"/> Newsletters
<input type="checkbox"/> One-on-One Intervention	<input type="checkbox"/> TV Media Programs
<input checked="" type="checkbox"/> Demonstrations	<input checked="" type="checkbox"/> Web sites
<input checked="" type="checkbox"/> Other 1 (Field Days)	<input checked="" type="checkbox"/> Other 1 (Fact Sheets)
<input type="checkbox"/> Other 2	<input checked="" type="checkbox"/> Other 2 (Proceedings and CD's)

3. Description of targeted audience

All aquaculture farmers in Oklahoma.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	200	300	0	0
2013	200	300	0	0
2014	200	300	0	0
2015	200	300	0	0
2016	200	300	0	0

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

2012:0 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	1	1
2013	0	0	0
2014	1	0	1
2015	0	1	1
2016	1	0	1

V(H). State Defined Outputs

1. Output Target

- Number of Research Projects completed on Fishery Management.

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of farmers learning new fishery management techniques.
2	Number of farmers using new fishery management techniques.
3	Farmers who have improved their production efficiency and raised their profits with the new fishery management techniques.

Outcome # 1

1. Outcome Target

Number of farmers learning new fishery management techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:200

2013:200

2014:200

2015:200

2016:200

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of farmers using new fishery management techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:30

2013:30

2014:30

2015:30

2016:30

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Farmers who have improved their production efficiency and raised their profits with the new fishery management techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:20

2013:20

2014:20

2015:20

2016:20

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

A prolonged drought may adversely affect fish production.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

Cost analyses will be used to determine if fish management techniques resulted in increased income for producers.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Cost analyses will be used.

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Global Food Security and Hunger: Sustainable Internal Parasite Control for Small Ruminants

2. Brief summary about Planned Program

The rapidly increasing number of goats in the United State has led to a growing importance of goat production and goat products to United States agriculture. Goat production is an important component of the farming systems of many small, resource-poor farmers and farm families. The main program objectives are twofold, first to develop enhanced goat production technologies that allow goat farmers to produce wholesome products in demand by the consumer through increased productivity and cost efficiency, and two, to transfer those technologies to farmers through a variety of extension avenues.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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
313	Internal Parasites in Animals		100%		100%
	Total		100%		100%

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

1. Situation and priorities

The program/project is needed to address factors impacting level of goat production and efficiency of goat production systems, nutrition, management, health, and product utilization including meat and

milk. The project is expected to make discoveries that would positively impact producers and consumers.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

To contain or eradicate internal parasites in goats.

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
2012	0.0	0.2	0.0	0.1
2013	0.0	0.2	0.0	0.1
2014	0.0	0.2	0.0	0.1
2015	0.0	0.2	0.0	0.1
2016	0.0	0.2	0.0	0.1

V(F). Planned Program (Activity)

1. Activity for the Program

Work will be performed to discover effective internal parasite control methods for goats.

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

Extension	
Direct Methods	Indirect Methods

<input checked="" type="checkbox"/> Education Class	<input type="checkbox"/> Public Service Announcement
<input checked="" type="checkbox"/> Workshop	<input type="checkbox"/> Billboards
<input type="checkbox"/> Group Discussion	<input checked="" type="checkbox"/> Newsletters
<input type="checkbox"/> One-on-One Intervention	<input type="checkbox"/> TV Media Programs
<input checked="" type="checkbox"/> Demonstrations	<input checked="" type="checkbox"/> Web sites
<input checked="" type="checkbox"/> Other 1 (Field Days)	<input checked="" type="checkbox"/> Other 1 (Proceedings)
<input type="checkbox"/> Other 2	<input type="checkbox"/> Other 2

3. Description of targeted audience

All goat producers in Oklahoma.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	400	500	0	0
2013	400	500	0	0
2014	400	500	0	0
2015	400	500	0	0
2016	400	500	0	0

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

2012:0 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	0	0
2014	1	0	1
2015	0	1	1
2016	1	0	1

V(H). State Defined Outputs

1. Output Target

- Number of Research Projects completed on sustainable internal parasite control.

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of goat producers learning internal parasite control techniques.
2	Number of goat producers using internal parasite control techniques.
3	Goat producers who have gotten internal parasites under control by using the learned control technique.

Outcome # 1

1. Outcome Target

Number of goat producers learning internal parasite control techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:200

2013:200

2014:200

2015:200

2016:200

3. Associated Knowledge Area(s)

- 313 - Internal Parasites in Animals

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of goat producers using internal parasite control techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:50

2013:50

2014:50

2015:50

2016:50

3. Associated Knowledge Area(s)

- 313 - Internal Parasites in Animals

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Goat producers who have gotten internal parasites under control by using the learned control technique.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:15

2013:15

2014:15

2015:15

2016:15

3. Associated Knowledge Area(s)

- 313 - Internal Parasites in Animals

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Unforeseen disease or insect infestations could adversely affect goat production and outcomes.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

Use of proposed internal parasite control method will be compared to methods presently in use by goat producers. Effectiveness of methods will be compared.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Results of proposed control methods will be compared to those presently in use by producers.

V(A). Planned Program (Summary)

Program # 11

1. Name of the Planned Program

Global Food Security and Hunger: Goat Internet Website

2. Brief summary about Planned Program

The rapidly increasing number of goats in the United States has led to a growing importance of goat production and goat products to United States agriculture. Goat production is an important component of the farming systems of many small, resource-poor farmers and farm families. The main program objectives are twofold, first to develop enhanced goat production technologies that allow goat farmers to produce wholesome products in demand by the consumer through increased productivity and cost efficiency, and two, to transfer those technologies to farmers through a variety of extension avenues.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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
903	Communication, Education, and Information Delivery		100%		100%
	Total		100%		100%

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

1. Situation and priorities

The program/project is needed to address factors impacting level of goat production and efficiency of goat production systems, nutrition, management, health, and product utilization including meat and

milk. The project is expected to make discoveries that would positively impact producers and consumers.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

To make our website a one-stop shop for goat information and ordering goat foods and 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
2012	0.0	0.1	0.0	0.1
2013	0.0	0.1	0.0	0.1
2014	0.0	0.1	0.0	0.1
2015	0.0	0.1	0.0	0.1
2016	0.0	0.1	0.0	0.1

V(F). Planned Program (Activity)

1. Activity for the Program

The Langston University goat internet website provides quality information for goat producers. This website will continue to be updated with viable information and expanded.

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

Extension	
Direct Methods	Indirect Methods

<input type="checkbox"/> Education Class	<input type="checkbox"/> Public Service Announcement
<input checked="" type="checkbox"/> Workshop	<input type="checkbox"/> Billboards
<input type="checkbox"/> Group Discussion	<input type="checkbox"/> Newsletters
<input type="checkbox"/> One-on-One Intervention	<input type="checkbox"/> TV Media Programs
<input checked="" type="checkbox"/> Demonstrations	<input checked="" type="checkbox"/> Web sites
<input checked="" type="checkbox"/> Other 1 (Field Days)	<input type="checkbox"/> Other 1
<input type="checkbox"/> Other 2	<input type="checkbox"/> Other 2

3. Description of targeted audience

All goat producers in Oklahoma.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	600	600	0	0
2013	600	600	0	0
2014	600	600	0	0
2015	600	600	0	0
2016	600	600	0	0

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

2012:0 2013:0 2014:1 2015:1 2016:1

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	1	1
2014	1	0	1
2015	1	1	2
2016	0	1	1

V(H). State Defined Outputs

1. Output Target

- Number of Research Projects completed on Goat Internet Website.

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of goat producers learning about information found on the goat internet website.
2	Number of goat producers using the goat internet website.
3	Goat producers who improved their operations with information from the goat internet website.

Outcome # 1

1. Outcome Target

Number of goat producers learning about information found on the goat internet website.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:600 2013:600 2014:600 2015:600 2016:600

3. Associated Knowledge Area(s)

- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of goat producers using the goat internet website.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:600 2013:600 2014:600 2015:600 2016:600

3. Associated Knowledge Area(s)

- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Goat producers who improved their operations with information from the goat internet website.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:50 2013:50 2014:50 2015:50 2016:50

3. Associated Knowledge Area(s)

- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Unforeseen disease or insect infestations could adversely affect outcomes.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

Number of hits on the website will be noted for useage of website. Surveys will be used to determine effectiveness of the website.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Surveys will be used.

V(A). Planned Program (Summary)

Program # 12

1. Name of the Planned Program

Global Food Security and Hunger: Development of New Dairy Goat Products

2. Brief summary about Planned Program

The rapidly increasing number of goats in the United States has led to a growing importance of goat production and goat products to United States agriculture. Goat production is an important component of the farming systems of many small, resource-poor farmers and farm families. The main program objectives are twofold, first to develop enhanced goat production technologies that allow goat farmers to produce wholesome products in demand by the consumer through increased productivity and cost efficiency, and two, to transfer those technologies to farmers through a variety of extension avenues.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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
502	New and Improved Food Products		100%		100%
	Total		100%		100%

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

1. Situation and priorities

The program/project is needed to address factors impacting level of goat production and efficiency of goat production systems, nutrition, management, health, and product utilization including meat and

milk. The project is expected to make discoveries that would positively impact producers and consumers.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

Assisting goat producers in becoming successful entrepreneurs of food and non-food goat 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
2012	0.0	0.3	0.0	0.3
2013	0.0	0.3	0.0	0.3
2014	0.0	0.3	0.0	0.3
2015	0.0	0.3	0.0	0.3
2016	0.0	0.3	0.0	0.3

V(F). Planned Program (Activity)

1. Activity for the Program

Work will be performed to develop new dairy goat products and create new opportunities for goat producers.

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

Extension	
Direct Methods	Indirect Methods

<input checked="" type="checkbox"/> Education Class	<input type="checkbox"/> Public Service Announcement
<input checked="" type="checkbox"/> Workshop	<input type="checkbox"/> Billboards
<input type="checkbox"/> Group Discussion	<input checked="" type="checkbox"/> Newsletters
<input type="checkbox"/> One-on-One Intervention	<input type="checkbox"/> TV Media Programs
<input checked="" type="checkbox"/> Demonstrations	<input checked="" type="checkbox"/> Web sites
<input checked="" type="checkbox"/> Other 1 (Field Days)	<input checked="" type="checkbox"/> Other 1 (Proceedings)
<input type="checkbox"/> Other 2	<input type="checkbox"/> Other 2

3. Description of targeted audience

All goat producers in Oklahoma.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	250	350	0	0
2013	250	350	0	0
2014	250	350	0	0
2015	250	350	0	0
2016	250	350	0	0

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

2012:1 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	1	1
2013	1	0	1
2014	0	1	1
2015	1	0	1
2016	0	1	1

V(H). State Defined Outputs

1. Output Target

- Number of Research projects completed on Development of New Dairy Goat Products

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of goat producers learning about techniques for developing new dairy goat products.
2	Number of goat producers using techniques for developing new dairy goat products.
3	Goat producers developing increasing yearly income from new dairy goat products.

Outcome # 1

1. Outcome Target

Number of goat producers learning about techniques for developing new dairy goat products.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:200

2013:200

2014:200

2015:200

2016:200

3. Associated Knowledge Area(s)

- 502 - New and Improved Food Products

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of goat producers using techniques for developing new dairy goat products.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:100

2013:100

2014:100

2015:100

2016:100

3. Associated Knowledge Area(s)

- 502 - New and Improved Food Products

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Goat producers developing increasing yearly income from new dairy goat products.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:5

2013:10

2014:10

2015:10

2016:10

3. Associated Knowledge Area(s)

- 502 - New and Improved Food Products

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Unforeseen disease or insect infestations could adversely affect goat production.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

A cost analysis will be performed to see if new goat products have led to increased income for producers.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

The portfolio of selected producers will be reviewed to determine if new goat products have led to increased income.

V(A). Planned Program (Summary)

Program # 13

1. Name of the Planned Program

Global Food Security and Hunger: Demonstration Clinic: Artificial Insemination for Goats

2. Brief summary about Planned Program

The rapidly increasing number of goats in the United States has led to a growing importance of goat production and goat products to United States agriculture. Goat production is an important component of the farming systems of many small, resource-poor farmers and farm families. The main program objectives are twofold, first to develop enhanced goat production technologies that allow goat farmers to produce wholesome products in demand by the consumer through increased productivity and cost efficiency, and two, to transfer those technologies to farmers through a variety of extension avenues.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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		100%		100%
	Total		100%		100%

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

1. Situation and priorities

The program/project is needed to address factors impacting level of goat production and efficiency of goat production systems, nutrition, management, health, and product utilization including meat and milk. The project is expected to make discoveries that would positively impact producers and consumers.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

Goat producers (regardless of farm size) will have ready access to genetically superior sires for herd improvement.

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
2012	0.0	0.1	0.0	0.0
2013	0.0	0.1	0.0	0.0
2014	0.0	0.1	0.0	0.0
2015	0.0	0.1	0.0	0.0
2016	0.0	0.1	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Hands-on artificial insemination (AI) workshops will be conducted to teach AI techniques to goat producers. These AI skills will allow goat producers to gain access to genetically superior sires for herd improvement.

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

Extension

Direct Methods	Indirect Methods
<input checked="" type="checkbox"/> Education Class <input checked="" type="checkbox"/> Workshop <input type="checkbox"/> Group Discussion <input type="checkbox"/> One-on-One Intervention <input type="checkbox"/> Demonstrations <input checked="" type="checkbox"/> Other 1 (Field Days) <input type="checkbox"/> Other 2	<input type="checkbox"/> Public Service Announcement <input type="checkbox"/> Billboards <input checked="" type="checkbox"/> Newsletters <input type="checkbox"/> TV Media Programs <input checked="" type="checkbox"/> Web sites <input checked="" type="checkbox"/> Other 1 (Fact Sheets) <input type="checkbox"/> Other 2

3. Description of targeted audience

All goat producers in Oklahoma.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	60	150	0	0
2013	60	150	0	0
2014	60	150	0	0
2015	60	150	0	0
2016	60	150	0	0

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

2012:0 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	1	1	2
2013	0	0	0

Year	Research Target	Extension Target	Total
2014	0	1	1
2015	1	0	1
2016	1	0	1

V(H). State Defined Outputs

1. Output Target

- Number of Research projects completed on Demonstration Clinic: Artificial Insemination for Goats

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of goat producers learning about artificial insemination techniques.
2	Number of goat producers using artificial insemination techniques.
3	Goat producers who improved their herds by using artificial insemination techniques.

Outcome # 1

1. Outcome Target

Number of goat producers learning about artificial insemination techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:50

2013:50

2014:50

2015:50

2016:50

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of goat producers using artificial insemination techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:50

2013:50

2014:50

2015:50

2016:50

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Goat producers who improved their herds by using artificial insemination techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:30

2013:30

2014:30

2015:30

2016:30

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Unforeseen disease/insect infestations could affect outcomes.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

Surveys will be used to determine satisfaction of producers who use techniques learned in the demonstration clinics.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Surveys will be used.

V(A). Planned Program (Summary)

Program # 14

1. Name of the Planned Program

Global Food Security and Hunger: Fish Marketing (Aquaculture)

2. Brief summary about Planned Program

This program will explore the development of additional aquaculture fishery products and markets based upon using normally underused native fishes. This research will benefit aquaculture product consumers and provide additional income stability for aquaculture producers.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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
601	Economics of Agricultural Production and Farm Management		100%		100%
	Total		100%		100%

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

1. Situation and priorities

FDA/EPA have issued advisories regarding frequency and amount of seafood consumption due to high methyl mercury concentration in wild freshwater and marine fish species. This may provide an opportunity for aquaculture producers to develop and market domestic alternative products.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

To help aquaculture producers establish more profitable fish marketing methods with alternative fish species.

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
2012	0.0	0.4	0.0	0.2
2013	0.0	0.4	0.0	0.2
2014	0.0	0.4	0.0	0.2
2015	0.0	0.4	0.0	0.2
2016	0.0	0.4	0.0	0.2

V(F). Planned Program (Activity)

1. Activity for the Program

Methods of marketing alternative fish species will be explored to increase fish producers' profits.

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

Extension	
Direct Methods	Indirect Methods

<input checked="" type="checkbox"/> Education Class	<input type="checkbox"/> Public Service Announcement
<input checked="" type="checkbox"/> Workshop	<input type="checkbox"/> Billboards
<input type="checkbox"/> Group Discussion	<input checked="" type="checkbox"/> Newsletters
<input type="checkbox"/> One-on-One Intervention	<input type="checkbox"/> TV Media Programs
<input type="checkbox"/> Demonstrations	<input type="checkbox"/> Web sites
<input checked="" type="checkbox"/> Other 1 (Field Days)	<input checked="" type="checkbox"/> Other 1 (Fact Sheets)
<input type="checkbox"/> Other 2	<input type="checkbox"/> Other 2

3. Description of targeted audience

All aquaculture producers in Oklahoma.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	300	320	0	0
2013	300	320	0	0
2014	300	320	0	0
2015	300	320	0	0
2016	300	320	0	0

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

2012:0 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	1	1
2013	1	0	1
2014	0	0	0
2015	0	1	1
2016	1	0	1

V(H). State Defined Outputs

1. Output Target

- Number of Research Projects completed on Fish Marketing.

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of farmers learning new fish marketing techniques.
2	Number of farmers using new fish marketing techniques.
3	Farmers who use new fish marketing techniques to increase their profits.

Outcome # 1

1. Outcome Target

Number of farmers learning new fish marketing techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:200

2013:200

2014:200

2015:200

2016:200

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of farmers using new fish marketing techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:100

2013:100

2014:100

2015:100

2016:100

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Farmers who use new fish marketing techniques to increase their profits.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:30

2013:30

2014:30

2015:30

2016:30

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

A prolonged drought may adversely affect fish production by producers.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

Production and sales of buffalo fishes will be monitored at multiple points during the project.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

- Profit comparisons
- Sustainability

V(A). Planned Program (Summary)

Program # 15

1. Name of the Planned Program

Global Food Security and Hunger: Meat Buck Performance Test

2. Brief summary about Planned Program

The rapidly increasing number of goats in the United States has led to a growing importance of goat production and goat products to United States agriculture. Goat production is an important component of the farming systems of many small, resource-poor farmers and farm families. The main program objectives are twofold, first to develop enhanced goat production technologies that allow goat farmers to produce wholesome products in demand by the consumer through increased productivity and cost efficiency, and two, to transfer those technologies to farmers through a variety of extension avenues.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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
303	Genetic Improvement of Animals		100%		100%
	Total		100%		100%

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

1. Situation and priorities

The program/project is needed to address factors impacting level of goat production and efficiency of goat production systems, nutrition, management, health, and product utilization including meat. The project is expected to make discoveries that would positively impact producers and consumers.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

Goat producers' herds will produce such high quality animals until meat buck performance testing is no longer needed.

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
2012	0.0	0.2	0.0	0.1
2013	0.0	0.2	0.0	0.1
2014	0.0	0.2	0.0	0.1
2015	0.0	0.2	0.0	0.1
2016	0.0	0.2	0.0	0.1

V(F). Planned Program (Activity)

1. Activity for the Program

Extension personnel will conduct the annual meat goat performance test for young, growing meat bucks to evaluate growth and feed efficiency.

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

Extension

Direct Methods	Indirect Methods
<input type="checkbox"/> Education Class <input checked="" type="checkbox"/> Workshop <input type="checkbox"/> Group Discussion <input type="checkbox"/> One-on-One Intervention <input type="checkbox"/> Demonstrations <input checked="" type="checkbox"/> Other 1 (Seminars) <input checked="" type="checkbox"/> Other 2 (Field Days)	<input type="checkbox"/> Public Service Announcement <input type="checkbox"/> Billboards <input checked="" type="checkbox"/> Newsletters <input type="checkbox"/> TV Media Programs <input checked="" type="checkbox"/> Web sites <input type="checkbox"/> Other 1 <input type="checkbox"/> Other 2

3. Description of targeted audience

All goat producers in Oklahoma

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	35	300	0	0
2013	35	300	0	0
2014	35	300	0	0
2015	35	300	0	0
2016	35	300	0	0

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

2012:0 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	1	1

Year	Research Target	Extension Target	Total
2014	1	0	1
2015	0	1	1
2016	1	0	1

V(H). State Defined Outputs

1. Output Target

- Number of Research Projects completed on Meat Buck Performance Test.

2012:1 2013:1 2014:1 2015:1 2016:1

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of goat producers learning about the meat buck performance test.
2	Number of goat producers using the meat goat performance test.
3	Goat producers who improve their herds via the meat buck performance test.

Outcome # 1

1. Outcome Target

Number of goat producers learning about the meat buck performance test.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:100

2013:100

2014:100

2015:100

2016:100

3. Associated Knowledge Area(s)

- 303 - Genetic Improvement of Animals

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of goat producers using the meat goat performance test.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:30

2013:30

2014:30

2015:30

2016:30

3. Associated Knowledge Area(s)

- 303 - Genetic Improvement of Animals

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Goat producers who improve their herds via the meat buck performance test.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:10

2013:10

2014:10

2015:10

2016:10

3. Associated Knowledge Area(s)

- 303 - Genetic Improvement of Animals

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Unforeseen disease/insect infestation could affect outcomes.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

Surveys will be used to determine satisfaction of producers who enroll animals in the meat buck performance test.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Surveys will be used.

V(A). Planned Program (Summary)

Program # 16

1. Name of the Planned Program

Food Safety: Goat Dairy Herd Improvement (DHI) Laboratory

2. Brief summary about Planned Program

The rapidly increasing number of goats in the United States has led to a growing importance of goat production and goat products to United States agriculture. Goat production is an important component of the farming systems of many small, resource-poor farmers and farm families. The main program objectives are twofold, first to develop enhanced goat production technologies that allow goat farmers to produce wholesome products in demand by the consumer through increased productivity and cost efficiency, and two, to transfer those technologies to farmers through a variety of extension avenues.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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
308	Improved Animal Products (Before Harvest)		100%		100%
	Total		100%		100%

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

1. Situation and priorities

The program/project is needed to address factors impacting level of goat production and efficiency of goat production systems, nutrition, management, health, and product utilization including meat and milk. The project is expected to make discoveries that would positively impact producers and consumers.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

Goat producer's herds will produce such high quality milk until goat dairy herd improvement milk testing is no longer needed.

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
2012	0.0	0.1	0.0	1.0
2013	0.0	0.1	0.0	1.0
2014	0.0	0.1	0.0	1.0
2015	0.0	0.1	0.0	1.0
2016	0.0	0.1	0.0	1.0

V(F). Planned Program (Activity)

1. Activity for the Program

Extension personnel will conduct goat milk quality tests in the Langston University Goat Dairy Herd Improvement Laboratory.

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

Extension

Direct Methods	Indirect Methods
<input type="checkbox"/> Education Class <input checked="" type="checkbox"/> Workshop <input type="checkbox"/> Group Discussion <input type="checkbox"/> One-on-One Intervention <input type="checkbox"/> Demonstrations <input checked="" type="checkbox"/> Other 1 (Field Days) <input checked="" type="checkbox"/> Other 2 (Seminars)	<input type="checkbox"/> Public Service Announcement <input type="checkbox"/> Billboards <input checked="" type="checkbox"/> Newsletters <input type="checkbox"/> TV Media Programs <input checked="" type="checkbox"/> Web sites <input type="checkbox"/> Other 1 <input type="checkbox"/> Other 2

3. Description of targeted audience

All goat producers in Oklahoma.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	200	1000	0	0
2013	200	1000	0	0
2014	200	1000	0	0
2015	200	1000	0	0
2016	200	1000	0	0

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

2012:0 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	1	1	2

Year	Research Target	Extension Target	Total
2014	1	0	1
2015	0	1	1
2016	1	0	1

V(H). State Defined Outputs

1. Output Target

- Number of Research Projects completed on Goat Dairy Herd Improvement (DHI) Laboratory.

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of goat producers who learned about the Goat Dairy Herd Improvement Laboratory.
2	Number of goat producers who are using the Goat Dairy Herd Improvement Laboratory.
3	Goat producers who have increased their production profits by utilizing the Goat Dairy Herd Improvement Laboratory.

Outcome # 1

1. Outcome Target

Number of goat producers who learned about the Goat Dairy Herd Improvement Laboratory.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:1000 2013:1000 2014:1000 2015:1000 2016:1000

3. Associated Knowledge Area(s)

- 308 - Improved Animal Products (Before Harvest)

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of goat producers who are using the Goat Dairy Herd Improvement Laboratory.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:150 2013:150 2014:150 2015:150 2016:150

3. Associated Knowledge Area(s)

- 308 - Improved Animal Products (Before Harvest)

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Goat producers who have increased their production profits by utilizing the Goat Dairy Herd Improvement Laboratory.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:75

2013:75

2014:75

2015:75

2016:75

3. Associated Knowledge Area(s)

- 308 - Improved Animal Products (Before Harvest)

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Unforeseen disease/insect infestation could affect outcomes.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

Surveys will be used to determine the satisfaction of producers who use our Goat Dairy Herd Improvement Laboratory.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Surveys will be used.

V(A). Planned Program (Summary)

Program # 17

1. Name of the Planned Program

Global Food Security and Hunger: Sustainable Energy: Phytoplankton (Aquaculture)

2. Brief summary about Planned Program

Research will be performed to provide needed information on phytoplankton management. Information on management of phytoplankton will increase the efficiency of fish production. Management information will also, be adaptable for use in water supply reservoirs for domestic consumption and recreation.

3. Program existence :

- New (One year or less)
- Intermediate (One to five years)
- Mature (More than five years)

4. Program duration :

- Short-Term(One year or less)
- Medium-Term (One to five years)
- Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- Yes
- No

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

- Yes
- 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		100%		100%
	Total		100%		100%

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

1. Situation and priorities

Learning to manage phytoplankton populations in aquaculture ponds is vital for sustainable production systems. Poor control of phytoplankton populations results in economic losses from fish kills, off-flavor and reduced population efficiency.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Funding will remain constant.

2. Ultimate goal(s) of this Program

To contain or eradicate phytoplankton problems to increase fish farmers' production levels and income.

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
2012	0.0	0.4	0.0	0.4
2013	0.0	0.4	0.0	0.4
2014	0.0	0.4	0.0	0.4
2015	0.0	0.4	0.0	0.4
2016	0.0	0.4	0.0	0.4

V(F). Planned Program (Activity)

1. Activity for the Program

Water analysis and phytoplankton management practices will be tested to determine feasible methods of phytoplankton management for small scale fish farmers.

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

Extension	
Direct Methods	Indirect Methods

<input type="checkbox"/> Education Class	<input type="checkbox"/> Public Service Announcement
<input checked="" type="checkbox"/> Workshop	<input type="checkbox"/> Billboards
<input type="checkbox"/> Group Discussion	<input type="checkbox"/> Newsletters
<input type="checkbox"/> One-on-One Intervention	<input type="checkbox"/> TV Media Programs
<input checked="" type="checkbox"/> Demonstrations	<input type="checkbox"/> Web sites
<input checked="" type="checkbox"/> Other 1 ((Field Days))	<input checked="" type="checkbox"/> Other 1 ((Proceedings))
<input type="checkbox"/> Other 2	<input checked="" type="checkbox"/> Other 2 ((Fact Sheets))

3. Description of targeted audience

All aquaculture farmers in Oklahoma.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	100	200	0	0
2013	100	200	0	0
2014	100	200	0	0
2015	100	200	0	0
2016	100	200	0	0

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

2012:0 2013:0 2014:0 2015:0 2016:0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	1	1
2014	0	1	1
2015	1	0	1
2016	1	0	1

V(H). State Defined Outputs

1. Output Target

- Number of Research Projects completed on Phytoplankton

2012:0

2013:0

2014:0

2015:0

2016:0

V(I). State Defined Outcome

O. No	Outcome Name
1	Number of farmers learning phytoplankton management techniques.
2	Number of farmers using phytoplankton management techniques.
3	Farmers who adopted phytoplankton management techniques to contain or eradicate their phytoplankton problems.

Outcome # 1

1. Outcome Target

Number of farmers learning phytoplankton management techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:300

2013:300

2014:300

2015:300

2016:300

3. Associated Knowledge Area(s)

- 111 - Conservation and Efficient Use of Water

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Number of farmers using phytoplankton management techniques.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:90

2013:90

2014:90

2015:90

2016:90

3. Associated Knowledge Area(s)

- 111 - Conservation and Efficient Use of Water

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Farmers who adopted phytoplankton management techniques to contain or eradicate their phytoplankton problems.

2. Outcome Type :

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

2012:15

2013:15

2014:20

2015:20

2016:20

3. Associated Knowledge Area(s)

- 111 - Conservation and Efficient Use of Water

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

A prolonged drought may adversely affect fish production.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Description

Cost analyses will be performed to determine if phytoplankton control techniques resulted in increased income.

2. Data Collection Methods

- Sampling
- Whole population

Survey (Mail, Telephone, On-Site).

- Mail
- Telephone
- On-Site

Interview

- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals
- Other

Description

Cost analyses will be used.