

V(A). Planned Program (Summary)

Program # 13

1. Name of the Planned Program

Poultry Production and Protection

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
133	Pollution Prevention and Mitigation	13%	0%	20%	0%
141	Air Resource Protection and Management	7%	0%	10%	0%
301	Reproductive Performance of Animals	9%	0%	14%	0%
305	Animal Physiological Processes	7%	0%	0%	0%
306	Environmental Stress in Animals	5%	0%	0%	0%
307	Animal Management Systems	21%	0%	6%	0%
311	Animal Diseases	13%	0%	20%	0%
315	Animal Welfare/Well-Being and Protection	5%	0%	0%	0%
403	Waste Disposal, Recycling, and Reuse	7%	0%	10%	0%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	13%	0%	20%	0%
	Total	100%	0%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	2.0	0.0
Actual	3.8	0.0	1.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
329295	0	89600	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
329295	0	89600	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Research conducted includes:

- A comprehensive validation of ammonia emissions from broiler houses. Findings demonstrated emissions could be measured accurately, simply and inexpensively. Ammonia group received a significant equipment grant.
 - Ammonia emissions from broiler houses were measured to determine concentrations at various distances from the broiler houses.
 - Research on phytate phosphorous and phytase enzyme
 - Food safety as related to poultry
 - Evaluation of novel chemistry techniques to disinfect or remove microbial pathogens
 - Research to develop improved methods of feeding and managing broiler breeders to increase egg production, improve fertility and reduce stress. Findings from this research resulted in improvements in all of these areas. Egg production has been increased almost 10% by changes in feeding regimes. Animal welfare has been improved by increasing the frequency of feeding.
 - Research to help reduce heating fuel and electricity costs, which account for almost 60% of a typical contract broiler grower's variable production costs. Rising energy costs over the last decade have contributed to the need for growers to find more energy efficient means of heating and cooling their poultry houses.
 - Studies on energy efficiency of solid-wall vs. curtain-sided houses. While solid-wall houses are more efficient, both can benefit from taking steps to maximize the benefit of the fuel used. Recommendations as a result of this project were shared with industry producers and professionals.

In addition to published newsletter, bulletins, and articles, educational Extension programs were offered based on research findings, including:

- Methods of feeding and managing broiler breeders
- Weatherproofing
- Reduction in electrical usage taking specific steps:
- Ventilation workshops
- Nutrient management planning (NMP) which included phosphorous management strategies to reduce environmental impact
 - Visits and assistance to individual processing plants

2. Brief description of the target audience

The target audience of this planned program include county extension agents, poultry producers, and poultry company professionals.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	200	1200	200	0
Actual	1031	8600	50	0

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	3	3	
Actual	5	5	10

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of educational contact hours generated from formal educational programs presented to county extension agents by state faculty directly associated with this planned program.

Year	Target	Actual
2010	10	15

Output #2

Output Measure

- Number of educational contact hours generated from formal educational programs presented directly to clientele by state faculty directly associated with this planned program.

Year	Target	Actual
2010	50	63

Output #3

Output Measure

- Number of significant publications including referred journals articles, bulletins and extension publications.

Year	Target	Actual
2010	20	22

Output #4

Output Measure

- Number of invited presentations by faculty directly resulting from the success of this planned program.

Year	Target	Actual
2010	9	36

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Farm gate value of poultry production in Georgia. Value reported annually in millions of dollars.
2	Number of additional direct extension contacts made by county faculty not receiving federal funds, staff or volunteers as a direct result of the work of faculty receiving federal funds within this planned program.
3	Number of poultry companies assisted as a result of this program.
4	Percentage of Georgia poultry producers trained in reduction/management methods.

Outcome #1

1. Outcome Measures

Farm gate value of poultry production in Georgia. Value reported annually in millions of dollars.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	5190	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

{No Data Entered}

What has been done

{No Data Entered}

Results

{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
305	Animal Physiological Processes
307	Animal Management Systems
311	Animal Diseases

Outcome #2

1. Outcome Measures

Number of additional direct extension contacts made by county faculty not receiving federal funds, staff or volunteers as a direct result of the work of faculty receiving federal funds within this planned program.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	20000	0

3c. Qualitative Outcome or Impact Statement

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

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
305	Animal Physiological Processes
306	Environmental Stress in Animals
307	Animal Management Systems
311	Animal Diseases
315	Animal Welfare/Well-Being and Protection

Outcome #3

1. Outcome Measures

Number of poultry companies assisted as a result of this program.

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Percentage of Georgia poultry producers trained in reduction/management methods.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
141	Air Resource Protection and Management
307	Animal Management Systems
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Other (Personnel changes)

Brief Explanation

The downturn in the economy has caused the loss of an important faculty resource that was key to this project. We will continue to address this issue but will be forced to do so with reduced personnel and resources.

Continued increases in the cost of phosphorous (P) to supplement poultry diets have increased the use of enzymes. This has resulted in less P in poultry litter.

Nitrogen (N) utilization and N based NMP have been competing issues with phosphorous utilization. Unexpected escalation of commercial fertilizer prices has driven much of the current use strategies relative to poultry litter. In addition, poultry producers have gone longer between cleaning out houses. Although this has not resulted overall in more phosphorous being generated or land applied, it has resulted in higher phosphorous levels in litter samples tested.

Continued increases in energy costs the past 24 months have made this project even more critical to poultry farmers.

Dramatic increases in feed prices have made increasing egg production even a higher industry priority.

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

1. Evaluation Studies Planned

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

Evaluation Results

Managing ammonia emissions from Georgia poultry houses: A major validation of ammonia emissions from broiler houses was completed. A significant equipment grant was received by the UGA ammonia emission team.

Phosphorous management and reduction in poultry houses: Evaluations of ferric sulfate as a litter treatment for reducing ammonia generation and soluble phosphorous formation in commercial broiler houses have been conducted.

Energy conservation in poultry production: Evaluations of workshops were completed. Program participants ranked the value of workshops very highly. In addition, government and industry funding agencies have provided evidence of the impact of this work by volunteering to supply resources for energy conservation projects. Poultry farmers have adopted new energy efficiency strategies that have been recommended.

Bio-security/Ag-security for Georgia poultry producers. Evaluation will be based on negative results; that is the failure of AI to infect Georgia poultry flocks will be considered a successful outcome. Data will be collected from participants in trainings and state and federal agencies responsible for poultry health.

Improving food safety in poultry processing and production (farm to fork): Problem solving activities were able to prevent several poultry processing plants from failing additional food safety inspections and prevented possible plant closings.

Improving reproductive efficiency and hatchability in broiler breeders: Field trials are being conducted with industry partners. Implementation of findings from this research are beginning to be seen in the poultry industry.

Key Items of Evaluation