V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Meat and Dairy Goat Production and Processing

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	0%	0%	0%	17%
304	Animal Genome	0%	0%	0%	17%
305	Animal Physiological Processes	20%	0%	0%	3%
306	Environmental Stress in Animals	20%	0%	0%	3%
307	Animal Management Systems	20%	0%	0%	3%
308	Improved Animal Products (Before Harvest)	20%	0%	0%	7%
502	New and Improved Food Products	20%	0%	0%	7%
601	Economics of Agricultural Production and Farm Management	0%	0%	0%	6%
604	Marketing and Distribution Practices	0%	0%	0%	20%
607	Consumer Economics	0%	0%	0%	7%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	0%	0%	0%	10%
	Total	100%	0%	0%	100%

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	0.0	4.0
Actual	0.4	0.0	0.0	4.3

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

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
35125	0	0	539600
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
35125	0	0	539600
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

An experiment was conducted to assess the effects of pasture grazing and transportation stress on microbial loads on skin and carcass and in the gastrointestinal tracts of meat goats.
In a Completely Randomized Design with split-plot treatment arrangement. Thirty Spanish intact male kids were allowed to graze on either Bermuda grass, sericea lespedeza, or BG+SL pasture for 8 wk.

At the end of the grazing period, 5 kids from each pasture were randomly selected. Samples were taken from subjects immediately after unloading from transport trailer and pre-slaughter the following morning.

Testing was done to assess the the microbial counts on skin immediately after transportation or prior to slaughter, as well as E. coli, total coliform, and total plate counts. The microbial counts of rumen and fecal contents were also tested.

In continuation with earlier work on myostatin gene promoter this year we identified a correctly oriented clone (pPRO-3) using restriction mapping. We have also sequenced the promoter-GFP reporter junction in both orientations which revealed a translation fusion of the MSTN promoter and GFP reporter (accomplishing our objective no 2).

We also did initial experiments whereby we transfected C2C12 cells with the p PRO-3 plasmid. In initial experiments we did not get any GFP positive cells. However we need to repeat those experiments to exclude any possibility. The results were presented in the American Society of Animal Science (Southern Section) Meeting at Orlando. Two undergraduate students, one technician and one middle school student received training in molecular biology during this period. This research also provided us an opportunity to extend linkages with Dr. Steve Stice (UGA), Dr. David Donovan (USDA) and Dr. Anil Sharma (Myo Clinic Rochester) anticipating future collaborations.
We also initiated work on cell culture; in collaboration with Dr. Anil sharma of Mayoclinic, Rochester. Three different commercially available media, known to support human and porcine-specific fibroblast cultures, were tested for their growth potential on goat skin explants. These goat skin fibroblast lines and the simple method of their isolation and freezing with high rate of viability will provide additional tools to study molecular mechanisms that regulate fibroblast function and for genetic manipulation of small ruminants.

A survey instrument for meat goat producers was developed. A database for small farmers was developed.

A pilot survey to determine the decision making process of meat goat production was conducted at the 2009 goat-a-rama in Sandersville, GA. A list of goat processors was put together. Multiple presentations were given using the collected data.

Survey questionnaires were mailed to farmers using a list provided by the FVSU Cooperative Extension to identify meat goat producers. Consumer surveys also were conducted at the annual Fort valley Field Day and at the 2010 Agricultural Exposition.
Presentations were made and an article was published on findings.

2. Brief description of the target audience

The scientific community in food and agricultural sciences, extension workers, food processors, goat enthusiasts, meat goat producers, and concusmers, dairy producers and consumers

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	0	100	0	0
Actual	100	500	0	0

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

Patent Applications Submitted

Year: 2010
Plan: 1
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	0	4	
Actual	0	1	1

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Target	Actual
2010	1	2

Output #2

Output Measure

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

Year	Target	Actual
2010	5	4

Output #3

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	2	0

Output #4

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	4	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of research experiments completed on dairy goat products development, food quality and economic evaluation.
2	Number of farmers using best herd health and parasite management practices.
3	Percentage of decrease in herd production loss.
4	Number of farmers learning control techniques.

Outcome #1

1. **Outcome Measures**

Number of research experiments completed on dairy goat products development, food quality and economic evaluation.

Not Reporting on this Outcome Measure

Outcome #2

1. **Outcome Measures**

Number of farmers using best herd health and parasite management practices.

Not Reporting on this Outcome Measure

Outcome #3

1. **Outcome Measures**

Percentage of decrease in herd production loss.

Not Reporting on this Outcome Measure

Outcome #4

1. **Outcome Measures**

Number of farmers learning control techniques.

2. **Associated Institution Types**

- 1890 Research

3a. **Outcome Type:**

Change in Knowledge Outcome Measure

3b. **Quantitative Outcome**

Year	Quantitative Target	Actual
2010	100	30

3c. **Qualitative Outcome or Impact Statement**

Issue (Who cares and Why)

What has been done

Results
Medium term measures are the number of producers receiving relevant information; and the number of farmers developing individual enterprise budgets and business plans.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
502	New and Improved Food Products
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
- Government Regulations
- Populations changes (immigration, new cultural groupings, etc.)
- Other ()

Brief Explanation

Availability of homogenous groups of animals (similar age, breed, sex, etc.) was an external factor that caused some delay prior to beginning of experiments.
However, this did not affect the outcome of the experiments.

Manpower not available, faculty had more teaching load, and delay in instruments/supplies.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- During (during program)
- Time series (multiple points before and after program)
- Other (Consumer Surveys)

Evaluation Results

Ideal pre-slaughter management methods can be identified and recommended to the producers only after completion of all aspects (objectives) of the study. None of the pre-slaughter management methods studied so far to control carcass contaminations significantly influenced the quality characteristics of fresh (goat meat).

Evaluations were for the final stage.

Key Items of Evaluation