V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Food Safety - Food Processing, Product Storage, and Food and Product Safety

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
216	Integrated Pest Management Systems	10%		5%	
401	Structures, Facilities, and General Purpose Farm Supplies	15%		5%	
403	Waste Disposal, Recycling, and Reuse	4%		5%	
501	New and Improved Food Processing Technologies	20%		10%	
502	New and Improved Food Products	5%		15%	
503	Quality Maintenance in Storing and Marketing Food Products	5%		10%	
701	Nutrient Composition of Food	12%		10%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	10%		10%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	14%		20%	
723	Hazards to Human Health and Safety	5%		10%	
	Total	100%		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	1.6	0.0	4.0	0.0
Actual	0.0	0.0	5.4	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**
20000	0	228127	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
20000	0	228127	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
1100000	0	1459963	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Conduct research that evaluates food processing technologies to improve food value, quality and safety. Provide technical applications, demonstrations and education for food processors. Develop rapid detection methods for allergens and toxins.

Conduct research to evaluate agricultural product storage and handling technologies to improve quality and safety. Develop technical applications, demonstrations and education for grain and food storage providers and handlers.

2. Brief description of the target audience

food processing industry, agriculture product manufacturers and marketers of grain, feed and food; private and government food safety regulators;

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	450	8000	0	0
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2010
Plan: 1
Actual: 1

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	5	8	
Actual	3	7	10

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Peer-reviewed journal articles

Year	Target	Actual
2010	8	7

Output #2

Output Measure

- Number of conferences and other extension outreach presentations

Year	Target	Actual
2010	8	8

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of processors and/or regulatory agencies implementing new rapid testing methods
2	Number of food processors implementing new technologies or technology improvements
3	New products produced
4	Grain storage, food or pest control entities adopting new process or product

Outcome #1

1. Outcome Measures

Number of processors and/or regulatory agencies implementing new rapid testing methods

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Bacterial contamination of equipment in food processing plants is of concern to processors and consumers due to possible contamination of foods that may cause illness in consumer populations.

What has been done
Research evaluated products to sterilize and/or reduce contamination of foods during processing.

Results
14 antimicrobial products were determined to reduce contamination of which one product was superior to all others.

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety

Outcome #2

1. Outcome Measures

Number of food processors implementing new technologies or technology improvements

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	4	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Roasting equipment used in processing foods including coffee use significant amounts of energy. Processing companies and the general public wish to reduce energy use in the U.S. and to reduce food costs.

What has been done
New roaster designs were developed that improve energy efficiency and compared to on market systems.

Results
A new design was successful in reducing energy use while maintaining or improving performance and is being implemented within the industry.

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety

Outcome #3

1. Outcome Measures

New products produced

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
502	New and Improved Food Products
701	Nutrient Composition of Food

Outcome #4

1. Outcome Measures

Grain storage, food or pest control entities adopting new process or product

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected 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.)

Brief Explanation

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

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}