

**V(A). Planned Program (Summary)**

**Program # 5**

**1. Name of the Planned Program**

Food Safety

Reporting on this Program

**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%		1%	
308	Improved Animal Products (Before Harvest)	5%		0%	
311	Animal Diseases	0%		33%	
312	External Parasites and Pests of Animals	0%		10%	
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	0%		3%	
501	New and Improved Food Processing Technologies	10%		0%	
502	New and Improved Food Products	0%		4%	
503	Quality Maintenance in Storing and Marketing Food Products	18%		0%	
504	Home and Commercial Food Service	30%		0%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	10%		2%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	15%		18%	
721	Insects and Other Pests Affecting Humans	2%		9%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		4%	
723	Hazards to Human Health and Safety	10%		6%	
903	Communication, Education, and Information Delivery	0%		10%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Extension	Research
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<b>Year: 2012</b>	<b>1862</b>	<b>1890</b>	<b>1862</b>	<b>1890</b>	
	Plan	115.0	0.0	8.0	0.0
	Actual Paid Professional	17.0	0.0	4.0	0.0
	Actual Volunteer	700.0	0.0	0.0	0.0

**2. Institution Name:** Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
106110	0	584509	0
<b>1862 Matching</b>	<b>1890 Matching</b>	<b>1862 Matching</b>	<b>1890 Matching</b>
106110	0	584509	0
<b>1862 All Other</b>	<b>1890 All Other</b>	<b>1862 All Other</b>	<b>1890 All Other</b>
0	0	0	0

**2. Institution Name:** NY State Agricultural Experiment Station

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	64451	0
<b>1862 Matching</b>	<b>1890 Matching</b>	<b>1862 Matching</b>	<b>1890 Matching</b>
0	0	64451	0
<b>1862 All Other</b>	<b>1890 All Other</b>	<b>1862 All Other</b>	<b>1890 All Other</b>
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

This is a comprehensive program entailing a wide range of applied research activities and multiple education methods depending on context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

Examples of activities are:

- Convey general knowledge and understanding of food safety science to New York State residents and beyond via varied communication strategies;
- Provide educational programs in collaboration with regulatory agencies involved with assuring the safety and wholesomeness of food processed, prepared, sold and handled and consumed by the public in New York State;
- Via courses, presentations and materials, support transfer of new research-based information for appropriate applications in the agricultural production, manufacturing, retailing and food service industries;
- Communicate current food safety production, manufacturing and technical problems to researchers at Cornell;
- Conduct specialized instruction in the effective application of laboratory methods to maintain and improve product safety and quality in the dairy and food industry.

**2. Brief description of the target audience**

Audiences reached include: processors, producers and consumers with targeted programs for moderate and low income families; 4-H youth; nutrition, health, and family professionals; front-line family workers; food service and food production staff and their managers and directors; and government and agency leaders at the local, state, and federal level.

**3. How was eXtension used?**

{No Data Entered}

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	165336	4605796	30028	812788

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

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
<b>Actual</b>	0	29	29

## **V(F). State Defined Outputs**

### **Output Target**

#### **Output #1**

##### **Output Measure**

- (5.1a) # of consumers in programs on: reducing food safety and/or food borne risks and illnesses including recommended purchasing, handling, storage, and preparation practices  
Not reporting on this Output for this Annual Report

#### **Output #2**

##### **Output Measure**

- (5.2a) # of producers/processors/food service providers participating in programs on: reducing food safety and/or food borne risks and illnesses including recommended production, processing, storage, handling, marketing, and preparation practices  
Not reporting on this Output for this Annual Report

#### **Output #3**

##### **Output Measure**

- (5.3a) # food safety decision-makers, policy makers and other officials reached with science-based information to improve food safety practices and policies  
Not reporting on this Output for this Annual Report

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	(5.1b) # of consumers who demonstrate knowledge or skill gains related to reducing food safety and/or food-borne risks and illnesses including recommended purchasing, handling, storage, and preparation practices
2	(5.1c) # of consumers documented to have implemented new and/or increased application of ongoing safe food purchasing, handling, storage, and preparation practices
3	(5.1d) Reduced incidence of food-borne illness among program participants.
4	(5.2b) # of producers/processors/food service providers who demonstrate knowledge or skill gains related to reducing food safety and/or food-borne risks and illnesses including recommended production, processing, storage, handling, marketing, and preparation practices
5	(5.2c) # of producers/processors/food service providers documented to have implemented new and/or increased application of ongoing safe food production, processing, storage, handling, marketing and preparation practices.
6	(5.2d) Improved safety of foods available through wholesale and retail outlets and institutional foods.
7	(5.3b) # of food safety decision-makers, policy makers and other officials who demonstrate knowledge gains relative to improved food safety practices and policies
8	(5.3c) # of communities/ firms/or organizations documented to have assessed practices or food safety policies as a result of participating in relevant educational programs.
9	(5.3d) # of communities/firms/or organizations documented to have implemented improved practices or food safety policies as a result of participating in relevant educational programs
10	Intervention Methods for Enhancing the Microbiological Safety of Fresh and Fresh-cut Produce Worobo
11	Mastitis Resistance to Enhance Dairy Food Safety Schukken
12	A Landscape Ecology Approach to Pre-harvest Food Safety
13	Food Preservation Remains a Relevant Skill
14	From Recipe to Market - A Program for New Food Entrepreneurs
15	Good Agricultural Practices (GAPs) Food Safety Training for Farmers & Trainers

**Outcome #1**

**1. Outcome Measures**

(5.1b) # of consumers who demonstrate knowledge or skill gains related to reducing food safety and/or food-borne risks and illnesses including recommended purchasing, handling, storage, and preparation practices

Not Reporting on this Outcome Measure

**Outcome #2**

**1. Outcome Measures**

(5.1c) # of consumers documented to have implemented new and/or increased application of ongoing safe food purchasing, handling, storage, and preparation practices

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	12405

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
504	Home and Commercial Food Service
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

**Outcome #3**

**1. Outcome Measures**

(5.1d) Reduced incidence of food-borne illness among program participants.

Not Reporting on this Outcome Measure

**Outcome #4**

**1. Outcome Measures**

(5.2b) # of producers/processors/food service providers who demonstrate knowledge or skill gains related to reducing food safety and/or food-borne risks and illnesses including recommended production, processing, storage, handling, marketing, and preparation practices

Not Reporting on this Outcome Measure

**Outcome #5**

**1. Outcome Measures**

(5.2c) # of producers/processors/food service providers documented to have implemented new and/or increased application of ongoing safe food production, processing, storage, handling, marketing and preparation practices.

Not Reporting on this Outcome Measure

**Outcome #6**

**1. Outcome Measures**

(5.2d) Improved safety of foods available through wholesale and retail outlets and institutional foods.

Not Reporting on this Outcome Measure

**Outcome #7**

**1. Outcome Measures**

(5.3b) # of food safety decision-makers, policy makers and other officials who demonstrate knowledge gains relative to improved food safety practices and policies

Not Reporting on this Outcome Measure

**Outcome #8**

**1. Outcome Measures**

(5.3c) # of communities/ firms/or organizations documented to have assessed practices or food safety policies as a result of participating in relevant educational programs.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	170

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
504	Home and Commercial Food Service
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
721	Insects and Other Pests Affecting Humans
723	Hazards to Human Health and Safety

**Outcome #9**

**1. Outcome Measures**

(5.3d) # of communities/firms/or organizations documented to have implemented improved practices or food safety policies as a result of participating in relevant educational programs

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	237

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
504	Home and Commercial Food Service
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
721	Insects and Other Pests Affecting Humans
723	Hazards to Human Health and Safety

**Outcome #10**

**1. Outcome Measures**

Intervention Methods for Enhancing the Microbiological Safety of Fresh and Fresh-cut Produce  
Worobo

Not Reporting on this Outcome Measure

**Outcome #11**

**1. Outcome Measures**

Mastitis Resistance to Enhance Dairy Food Safety Schukken

Not Reporting on this Outcome Measure

**Outcome #12**

**1. Outcome Measures**

A Landscape Ecology Approach to Pre-harvest Food Safety

Not Reporting on this Outcome Measure

**Outcome #13**

**1. Outcome Measures**

Food Preservation Remains a Relevant Skill

Not Reporting on this Outcome Measure

**Outcome #14**

**1. Outcome Measures**

From Recipe to Market - A Program for New Food Entrepreneurs

Not Reporting on this Outcome Measure

## **Outcome #15**

### **1. Outcome Measures**

Good Agricultural Practices (GAPs) Food Safety Training for Farmers & Trainers

Not Reporting on this Outcome Measure

### **V(H). Planned Program (External Factors)**

#### **External factors which affected outcomes**

- Economy
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)

#### **Brief Explanation**

Large-scale food illness outbreaks are attributed to a number of factors such as the complexity of evolving microbes and changing food consumption patterns which influences the conduct of research and development of educational programs. Unknown agents account for approximately 81% of foodborne illnesses and hospitalizations and 64% of deaths, according to the Center for Disease Control, constraining the design of programs.

Lack of an integrated system for federal agencies and the food industry to coordinate food contamination information hampers research and education. Changing and sometimes complex governmental policies and regulations affect implementation of food safety measures. Food from countries beyond the US may further complicate control and implementation of effective food safety measures.

### **V(I). Planned Program (Evaluation Studies)**

#### **Evaluation Results**

The evaluation approach included in our plan can more accurately be described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. In addition, specialized data

needs of funding partners must be addressed, sometimes using methods and/or accountability structures required by the funders.

Cornell Cooperative Extension works with the Cornell Office of Research and Evaluation (CORE) to influence our evaluation patterns and procedures. CORE has piloted the Evaluation Partnership Project (EPP) over the last decade documenting processes that work for Cornell Cooperative Extension and teaching process. The CORE Evaluation Partnership Project has included intensive program development and evaluation planning with a number of targeted programs and counties.

We employ a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities for each of our planned programs. The results are aggregated in a statewide accountability system which leads to the summary results reported in the State Defined Outcomes in each plan including selected impact statements and success stories from a pool of more than 400 documented narratives.

### **Key Items of Evaluation**

See cross cutting outcomes in State Defined Outcomes.