

V(A). Planned Program (Summary)

Program # 11

1. Name of the Planned Program

Food 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
201	Plant Genome, Genetics, and Genetic Mechanisms	5%		5%	
204	Plant Product Quality and Utility (Preharvest)	5%		5%	
212	Pathogens and Nematodes Affecting Plants	5%		5%	
216	Integrated Pest Management Systems	5%		5%	
308	Improved Animal Products (Before Harvest)	10%		10%	
501	New and Improved Food Processing Technologies	20%		20%	
503	Quality Maintenance in Storing and Marketing Food Products	10%		10%	
504	Home and Commercial Food Service	10%		10%	
607	Consumer Economics	5%		5%	
702	Requirements and Function of Nutrients and Other Food Components	5%		5%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	5%		5%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	15%		15%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	9.4	0.0	25.2	0.0
Actual Paid Professional	4.5	0.0	7.1	0.0
Actual Volunteer	0.0	0.0	0.0	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
539697	0	199248	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
973193	0	1169054	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
157325	0	288018	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Research-based programs will focus on conducting research experiments and programs emphasizing our key interest areas including detection and control of foodborne pathogens.

A wide variety of programs will be delivered to our targeted audiences. Some programs will include a complete development of curriculum, while others will involve the use of readily available programs used in other states and/or available for purchase through different organizations. Our output effort will include:

- partnering with important stakeholders,
- development of workshop materials and curricula
- conducting workshops
- development of web-based and distance education materials
- working with the media

We expect to increase our offerings through distance education and/or web-based materials. Most programs involve some type of collaboration or partnerships with our stakeholders, with industry, with consumers, or with regulatory agencies. Evaluation tools vary greatly depending on the intended audience and program type ranging from surveys, to pre-and post test, to national certification exams, and intensive follow up surveys to better assess knowledge gain.

2. Brief description of the target audience

- Animal production personnel
- Plant production personnel
- Food manufacturing and processing plant personnel
- Food service and food retail workers
- Consumers
- Youth
- State and county health departments
- Federal regulatory officials
- State industry associations
- First Responders

3. How was eXtension used?

Posting resources, webcasts, articles, YouTube videos, calendars, twitter feeds and contributions to Communities of Practice and Ask an Expert.

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	8846	240437	802	92

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

Patent Applications Submitted

Year: 2011

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	9	49	58

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of food safety programs offered to consumers

Year	Actual
2011	219

Output #2

Output Measure

- Number of programs offered to the food industry

Year	Actual
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2011 145

Output #3

Output Measure

- Number of research projects on food safety

Year	Actual
2011	16

Output #4

Output Measure

- Number of research publications related to control of foodborne hazards

Year	Actual
2011	9

Output #5

Output Measure

- Number of research publications related to detection of foodborne pathogens

Year	Actual
2011	36

Output #6

Output Measure

- Number of research publications related to food defense and protection

Year	Actual
2011	25

Output #7

Output Measure

- Number of Extension publications related to food safety

Year	Actual
2011	9

Output #8

Output Measure

- Number of volunteers

Not reporting on this Output for this Annual Report

Output #9

Output Measure

- Number of consultations

Year	Actual
2011	452

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of incidents of foodborne illness associated with unsafe food handling practices
2	Number of persons who increased their knowledge of cooking foods adequately
3	Number of persons who increased their knowledge of avoiding cross-contamination
4	Number of persons who increased their knowledge of keeping food at a safe temperature
5	Number of persons who increased their knowledge of storing foods properly
6	Number of persons who increased their knowledge of proper hand washing
7	Number of participants passing food handler certificate
8	Number of participants adopting best management practices related to food safety

Outcome #1

1. Outcome Measures

Number of incidents of foodborne illness associated with unsafe food handling practices

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Number of persons who increased their knowledge of cooking foods adequately

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Number of persons who increased their knowledge of avoiding cross-contamination

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	1382

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The United States has one of the safest food supplies, yet several thousand Americans die every year from foodborne illness. Each year Americans are increasingly spending their food dollars on meals away from home. With this increase, public concern about food safety has never been greater. This means an increased need for food safety training for those serving the public to ensure the safety of our food supply.

What has been done

To assist food establishments in meeting the state mandatory training/certification requirement, the Purdue Health and Human Sciences Extension Educators from Clark, Floyd, and Orange Counties and Health Department Environmental Specialists from Clark County in partnership with the Indiana Restaurant Association provided 2 ServSafe one-day certification opportunities in Clark County. The Food Safety Team taught the ServSafe curriculum which focuses on food safety all along the flow of food through a food service operation, while concentrating on critical areas where contamination is most likely to occur.

Results

Through ServSafe, a nationally recognized food safety program, participants learned how to trace the flow of food through the foodservice operation, concentrating on those critical areas where contamination is most likely to occur. The participants gained knowledge of avoiding cross-contamination, cooking foods adequately, keeping food at a safe temperature, proper hand washing, and storing foods properly. The bottom line is that consumers are more likely to receive safe food due to the food safety knowledge and skills that the participants gained through the ServSafe food handlers certification program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #4

1. Outcome Measures

Number of persons who increased their knowledge of keeping food at a safe temperature

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	1775

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In Indiana, the Food Code requires that one individual per establishment be certified in food safety.

What has been done

The Purdue Extension Service in 23 counties provided Serv Safe training and exam, Serve Safe recertification training and exam, Food Safety Day training, and/or proctored Serv Safe exams only on line or in the classroom. These trainings are done in partnership with the local Boards of Health, the Indiana Restaurant Association, and the National Restaurant Association. The Serv Safe training is two days of review of the textbook information before the exam. The Serv Safe recertification training is a four hour refresher course before the exam.

Results

A 3 month impact survey indicated: 61% of participants washed hands more frequently during food preparation and service. 58% of participants checked the temperature of food to make sure that it was cooked to safe temperatures. 60% of participants took the temperature of food to make sure that it was cooled quickly to safe temperatures. 56% of participants kept raw foods separate from ready-to-eat foods to prevent cross contamination. 54% of participants made sure that all work surfaces, equipment and utensils were cleaned and sanitized before preparing and serving foods.

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #5

1. Outcome Measures

Number of persons who increased their knowledge of storing foods properly

Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

Number of persons who increased their knowledge of proper hand washing

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Number of participants passing food handler certificate

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	867

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Research indicates that effective and proactive food safety and sanitation programs can help prevent foodborne illnesses and deaths. In an effort to ensure the safety of the retail food supply, Indiana Food Code requires that each retail food establishment must have at least one person on staff trained and certified in food safety and sanitation practices. Employers and employees prefer to obtain this certification locally. This is a convenience for the employee and a cost savings for the employer

What has been done

In collaboration with their local health departments, a team of six Extension Educators organized and taught 18 ServSafe certification classes in southwestern Indiana. Six were half-day re-certification classes and 12 were two-day trainings. In addition 3 on-line exams were proctored. The trainings were advertised statewide on the Indiana Restaurant and Hospitality Association website. Food sanitarians helped market the classes through mailings and personal contacts.

Results

A total of 127 individuals participated in the classes and 120 passed the certification exam with an average score of 85.45%. Three individuals were certified by passing the on-line exam with an average score of 87.5%. As a result of these trainings, 123 persons were certified in safe food handling practices and their employers are now in compliance with this Indiana Food Code requirement.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #8

1. Outcome Measures

Number of participants adopting best management practices related to food safety

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	621

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Indiana fresh fruit and vegetable producers play an important role in the states agriculture, food systems and local economies. Growers must satisfy consumer, buyer, and government expectations for produce safety in order to remain competitive. Many growers have not had education about food safety practices for the farm and are not prepared to address current or potentially mandated food safety expectations.

What has been done

The Indiana-Illinois Food Safety Initiative for Fresh Fruits and Vegetables has developed and presented educational programs to fruit and vegetable farmers in the two states. Single presentations introducing food safety and Good Agricultural Practices, or covering one key topic, have been included in other events. Four to 8-hour sessions have been held in conjunction with the Indiana Horticultural Congress, and also as independent events.

Results

Educational programs have informed 400 people about Good Agricultural Practices and on-farm food safety. Over 90% of the participants who returned evaluations at longer food safety programs planned to make changes on their farm based on something they learned from the presenters. Over 35% of people who heard a food safety presentation as part of a multi-topic program said they planned to make changes based on what they learned about food safety. All participants at webinars and the food safety plan writing workshop who responded indicated that because of interactions with Extension in the last year, their knowledge about food safety issues in the fresh produce industry has increased, and they have begun to assess food safety risks on their farm.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

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.)
- Other (state and national priorities)

Brief Explanation

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Purdue's College of Agriculture has approximately 300 faculty members and 275 Extension Educators. The breadth and depth of outputs and outcomes they report on annually are consistent with the research and Extension funding they receive and the results they have committed to produce as a result of accepting the funding awards. We have chosen to report success on an individual faculty basis as they are the experts in their field and are best qualified to determine the appropriateness of measures used to demonstrate success. We are not, at this time, structured to evaluate summative success across a Planned Program because the metrics are diverse and often unrelated.

Key Items of Evaluation