

V(A). Planned Program (Summary)

Program # 6

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
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	100%	100%	100%	100%
Total		100%	100%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	8.0	1.5	5.0	1.5
Actual Paid Professional	8.0	1.5	5.0	3.7
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
329599	131375	0	300777
1862 Matching	1890 Matching	1862 Matching	1890 Matching
329599	131375	0	357716
1862 All Other	1890 All Other	1862 All Other	1890 All Other
329599	131375	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Develop technical assistance programs for UME
- Develop and/or adapt food safety materials and resources for UME Educators
- Collaborate with local, regional, and national partners
- Develop safe food educational materials/ resources and disseminate USDA food safety materials to consumers and producers
 - Conduct trainings and workshops, including train-the-trainer workshops
 - Conduct evaluations
 - Promote and support Maryland Farm to School and other agricultural literacy programs
 - Conduct data analysis, needs assessments, environmental scans, and asset mapping
 - Network internally and externally with collaborators, partners, and affiliates
 - Raise community and stakeholder awareness of local food issues
 - Contribute to relevant eXtension Communities of Practice
 - Develop online food safety modules
 - Conduct social marketing awareness education focusing on food safety
 - Conduct basic and applied research to inform program development regarding food borne illnesses and beneficial and safe compounds in the food.

2. Brief description of the target audience

- Consumers: Youth, adults, older adults
- Commercial: Fruit and vegetable producers
- Food service workers, childcare workers, community-based organizations
- Service agencies related to food production, promotion, consumption, protection, education

3. How was eXtension used?

Several educators are members of eXtension.org Communities of Practice (CoPs).

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	2438	0	0	0

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
Actual	10	34	44

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 1. Food Safety Practices: # training sessions; # trained; # courses developed; # publications; # Mass Media

Year	Actual
2012	1295

Output #2

Output Measure

- 2. Good Agricultural Practices (GAP): # of fruit and vegetable farmers implementing Good Agricultural Practices; # of fruit and vegetable producers attending GAP training; # of GAP workshops, seminars, consultations.

Year	Actual
2012	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	1. Food Safety Practices: Participants will gain basic food safety knowledge and skills, resulting in an intent to adopt the following: Follow the key safe food handling recommendations (clean; separate; cook; chill) -Wash hands before working with food -Clean food preparation utensils and surfaces -Wash fruits and vegetables before eating and preparing - Keep raw food/meat separate from ready to eat foods -Cook and chill food to safe temperature using a food thermometer -Store foods at a safe temperature using an appliance thermometer
2	2. Good Agricultural Practices (GAP): Maryland's fruit and vegetable producers implement Good Agricultural Practices in their operations to prevent contamination and ensure a safe food supply.

Outcome #1

1. Outcome Measures

1. Food Safety Practices: Participants will gain basic food safety knowledge and skills, resulting in an intent to adopt the following: Follow the key safe food handling recommendations (clean; separate; cook; chill) -Wash hands before working with food -Clean food preparation utensils and surfaces -Wash fruits and vegetables before eating and preparing - Keep raw food/meat separate from ready to eat foods -Cook and chill food to safe temperature using a food thermometer -Store foods at a safe temperature using an appliance thermometer

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

During the past 30 years, there has been an increased incidence of food borne illnesses. Currently, one in four Americans suffers from food borne illness each year. Some foods, such as fruits and vegetables, are often consumed raw or with limited preparation. In addition, the U.S. agriculture and food systems are vulnerable to disease, pest, or poisonous agents that occur naturally or are intentionally or unintentionally introduced.

What has been done

A research project entitled Preventing Foodborne Illnesses Among Vulnerable Older Adults Through the Home-Delivered Meal Program is developing and pilot testing a food safety training course for staff, volunteers and clients of home-delivered meal programs. Older adults who receive home-delivered meals are especially vulnerable to foodborne illness, as they have a high prevalence of health conditions that can weaken the immune system.

Results

Through the webinar for State Units on Aging and training session at the MOWAA conference, over one hundred state representatives and other individuals have been trained on how to administer the Food Safety on the Go course to home-delivered meal programs within their states. The curriculum is in high demand and has been incorporated already in several states as

a component of the nutrition sites training programs.

4. Associated Knowledge Areas

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

Outcome #2

1. Outcome Measures

2. Good Agricultural Practices (GAP): Maryland's fruit and vegetable producers implement Good Agricultural Practices in their operations to prevent contamination and ensure a safe food supply.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Food safety for leafy greens and tomatoes needs scientifically-based consensus food safety metrics for leafy greens and tomatoes. This research examines industry-proposed metrics intended to help ensure that leafy greens and tomato growers are implementing good agricultural practices and hygienic controls for microbiological safety.

What has been done

This research project has as objectives to (a) validate the proposed metrics to ensure their applicability in a variety of growing regions and their ability to withstand scientific challenge, (b) develop potential additional metrics with improved predictability, performance and cost attributes, and (c) identify improved approaches and techniques that allow the attainment of the metrics to be objectively verified in a rapid, simple, and cost effective manner.

Results

Internet-based survey instruments have been designed to elicit cost information from leafy greens and tomato growers and packers. The grower survey contains questions about the frequency with which water, soil amendments, and product are sampled; the frequency with which fields are inspected for wildlife encroachment and flooding; the frequency of contamination incidents; preventive actions; and the costs incurred in sampling, field inspections, responses to

contamination incidents, and preventive measures. The packer survey contains questions about the frequency with which water, the packing environment, and product are sampled; the frequency with which packing and transportation equipment are inspected; the frequency with which remedial actions were necessary; preventive actions; and the costs incurred in sampling, remedial actions, and preventive measures.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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
- Public Policy changes
- Government Regulations
- Competing Public priorities

Brief Explanation

The demand for food safety education and research continues to increase. More resources are needed to meet research and outreach needs.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Since two pilot tests in 2011, we have been gathering feedback from programs that participated in the pilot tests, through written and internet-based course evaluations. We conducted a 4-month follow up survey of pilot test programs, and asked programs to evaluate the content of the course; report which modules were most relevant to them; discuss the strengths and weaknesses of the course; and report any changes in their food safety practices as a result of taking this course. We had also asked pilot test programs to measure the refrigerator temperatures of a specific number of new clients, to determine whether these clients' refrigerators were at 40 degrees or below and thus able to maintain food at a safe temperature. We have received measurements of clients' refrigerator temperatures from programs, and from results to date, it appears that approximately one third of client refrigerators may be at unsafe temperatures of over 40 degrees. We are using the information we have collected from programs as part of our outcome evaluation, and plan to include it in an article on project results.

Key Items of Evaluation