FOOD SCIENCE, TECHNOLOGY, SAFETY, AND NUTRITION

FOOD SCIENCE, TECHNOLOGY, SAFETY, AND NUTRITION

V(A). Planned Program (Summary)

1. Name of the Planned Program

FOOD SCIENCE, TECHNOLOGY, SAFETY, AND NUTRITION

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	20%	20%	20%	20%
502	New and Improved Food Products	10%	10%	10%	10%
702	Requirements and Function of Nutrients and Other Food Components	10%	10%	10%	10%
703	Nutrition Education and Behavior	20%	20%	20%	20%
704	Nutrition and Hunger in the Population	10%	10%	10%	10%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	10%	10%	10%	10%
724	Healthy Lifestyle	20%	20%	20%	20%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	7.6	2.5	4.9	0.0
Actual	7.0	2.0	4.9	4.0

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

Extension		Research	
Smith-Lever 3b & 3c 12412	1890 Extension 264250	Hatch 0	Evans-Allen 240794
1862 Matching 12412	1890 Matching 264250	1862 Matching 0	1890 Matching 240794
1862 All Other 169689	1890 All Other 75319	1862 All Other 213552	1890 All Other 191792

V(D). Planned Program (Activity)

1. Brief description of the Activity

Research efforts involve using high pressure processing to reduce bacteria, viruses, protozoan oocysts, and bacterial endospores; inactivation of pathogenic bacterial species with high pressure and mild heat; using various antimicrobial films to control bacteria, such as Listeria monocytogenes; physiological and genetic analysis of pressure-resistant Listeria monocytogenes; testing of activity of antimicrobial films against native and inoculated bacteria on foods and surfaces; effects and mechanisms of non-thermal processes (ozone, UV, oxidative chemicals, iron, and/or high pressure processing) on protozoa, human pathogenic viruses, and bacteriophage, and increase understanding of basic biochemistry of these microorganisms. Extension efforts include conducting Keep Food Safe, ServSafe®, Don't Give Kids a Tummy Ache, Food Safety for Entrepreneurs, Keep'em Down on the Farm, Chances and Choices, Operation Risk, Microbial Contamination, Don't Bug Me!, Families First Nutrition Education and Wellness System (FFNEWS), Power of Choice, Dining With Diabetes, Give Your Heart A Healthy Beat!, Boning Up On Health, Strive For 5, Intelligent Eaters Club, Dietary Effects On Cancer Risks, Stretch, Flex, And Endure, Snacks to Please!, Planning Meals for Children, Create A Healthy Environment, Putting Good Nutrition To Work for Children, FoodSkills, and Expanded Food and Nutrition Education workshops; training volunteers including Master Food Educators, 4-H leaders, agency personnel, and teachers; providing Great Beginnings and Families Matter newsletters; publishing a quarterly nutrition newsletter for general audiences and giving handouts to parents of children in targeted schools as well as to other school personnel; developing and delivering programs on Kids Cooking (1890 EFNEP), Food Safety for Youth, Eat Smart, Play Hard, and Diet and Cancer; conducting favorite foods and 4-H foods contests; developing web-based information and fact sheets; distributing information to media; developing a marketing campaign to expand program participation; developing a marketing strategy with state and local government partners, faith-based groups, parents, social workers, childcare providers, low income housing managers, and corporate wellness centers to collectively deal with low income and socially disadvantaged individuals.

2. Brief description of the target audience

Restaurant workers, volunteer food handlers, delicatessen workers, day care providers, institutional foodservice workers, school foodservice personnel, caterers/private chefs, food entrepreneurs, retail food owners/managers, food producers, youth ages 5 to 18, parents and caregivers of children from birth to 18, limited-resource individuals and families, 4-H leaders and clubs, Boys and Girls clubs, teachers and other school personnel, youth in low-income schools, adults at risk for chronic disease (diabetes, osteoporosis, heart disease, certain cancers), adults with chronic diseases (diabetes, heart disease) policy makers, and media.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	2500	46025	6595	5925
2007	2500	46025	6595	5925

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

Patent Applications Submitted

Year	Target
Plan:	0
2007:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	27

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Number of Competitive Grants Submitted

Year	Target	Actual
2007	5	25

Output #2

Output Measure

Number of Competitive Grants Awarded

Year	Target	Actual
2007	2	9

Output #3

Output Measure

Number of Research Projects Completed

Year	Target	Actual
2007	4	12

Output #4

Output Measure

Number of Undergraduate Researchers

Year	Target	Actual
2007	3	9

Output #5

Output Measure

Number of M.S. Graduate Students

Year	Target	Actual
2007	4	11

Output #6

Output Measure

Number of Post-doctoral Research Associates

Year	Target	Actual
2007	1	3

Output #7

Output Measure

Number of Refereed Journal Articles

Year	Target	Actual
2007	6	24

Output #8

Output Measure

Number of Books and Book Chapters

Year	Target	Actual
2007	1	3

Output #9

Output Measure

Number of Technical Reports

Year	Target	Actual
2007	1	4

Output #10

Output Measure

Number of Extension Bulletins and Factsheets

Year	Target	Actual
2007	10	2

Output #11

Output Measure

Number of Invited Presentations

Year	Target	Actual
2007	2	26

Output #12

Output Measure

Number of Volunteered Presentations

Year	Target	Actual
2007	6	33

Output #13

Output Measure

Number of Websites Established

Year	Target	Actual
2007	0	4

Output #14

Output Measure

Number of Workshops Conducted

Year	Target	Actual
2007	200	509

Output #15

Output Measure

Number of Newsletters Distributed

Year	Target	Actual
2007	32000	987

Output #16

Output Measure

Number of New Program Partners

Year	Target	Actual
2007	15	34

Output #17

Output Measure

Number of Ph.D. Graduate Students

Year	Target	Actual
2007	{No Data Entered}	2

V(G). State Defined Outcomes

O No.	Outcome Name
1	Increased number of farmers, processors, food handlers, and families who are aware of food safety and nutrition issues that can lead to illness and long-term health problems and of the practices and technologies needed to ensure a safe and healthy food supply.
2	Educational programs for K-12 youth and teachers on food safety and nutrition that will help reduce the likelihood of food-borne illness, develop good nutritional and dietary habits, avoid obesity, and prevent chronic illnesses related to poor nutrition.
3	Increased number of farmers and food processors adopting research-based advances in food science technology that will prevent the incidence and spread of foodborne illnesses.
4	Safe, new food products that are preserved using innovative technologies designed to maintain food quality and nutrient content.
5	Increased number of program participants improving in one or more safe handling practices.
6	Increased number of participating youth increasing understanding of safe food handling procedures.
7	Increased number of program participants improving one or more nutrition practices.
8	Increased number of program participants improving one or more food resource management practices.
9	Increased number of program participants increasing or maintaining appropriate physical activity level.
10	Food science and technology: basic and applied research will lead to optimization of intervention strategies incorporating high hydrostatic pressure processing, ultraviolet light, ozone treatment, active packaging and low-temperature storage to eliminate or significantly reduce the source of foodborne disease in food products. Applied food science research and extension programs in these areas will increase awareness to food producers and consumers of the most effective strategies for food product safety.
11	Food safety: research and extension programs will lead to enhanced safety and wholesomeness of foods as a result of improved understanding of the mechanisms whereby food pathogens exist, enter, survive, propagate and actuate disease syndromes in individuals who consume contaminated products. Gene-based methods to rapidly and accurately identify food-borne pathogens will increase the safety of food products.

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Outcome #1

1. Outcome Measures

Not reporting on this Outcome for this Annual Report

2. Associated Institution Types

3a. Outcome Type:

3b. Quantitative Outcome

Year	Quantitative Target	Actual

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Retrospective (post program)
Before-After (before and after program)
During (during program)

Evaluation Results

Key Items of Evaluation