V(A). Planned Program (Summary)

Program # 7

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
211	Insects, Mites, and Other Arthropods Affecting Plants	5%	0%	0%	
212	Diseases and Nematodes Affecting Plants	5%	0%	0%	
213	Weeds Affecting Plants	5%	0%	0%	
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	5%	0%	0%	
215	Biological Control of Pests Affecting Plants	5%	0%	0%	
216	Integrated Pest Management Systems	5%	0%	0%	
311	Animal Diseases	5%	0%	0%	
312	External Parasites and Pests of Animals	5%	0%	0%	
313	Internal Parasites in Animals	5%	0%	0%	
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	5%	0%	0%	
315	Animal Welfare/Well-Being and Protection	10%	0%	0%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	10%	0%	0%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	15%	0%	0%	
721	Insects and Other Pests Affecting Humans	10%	0%	0%	
722	Zoonotic Diseases and Parasites Affecting Humans	5%	0%	0%	
	Total	100%	0%	0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	25.0	3.0	0.0	0.0
Actual Paid	27.8	0.0	0.0	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**
301755	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
301755	0	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Key educational methods to be used across the state: Improving fresh produce safety/ Small farm food safety

• On-site training for produce workers using existing materials on CD with appropriate activities or other adult learning methods; In-service training for faculty; County training with activities, adult learning methods for consumers; Distribution of current EDIS pubs, develop others as needed.

• Use media outreach to increase awareness of fresh produce food safety e.g. print and broadcast media, Family Album Radio, the Solutions for Your Life and county Web sites.

Key educational methods: Revitalizing home food preservation

• Continue training of county faculty based on recent research on home food preservation in collaboration with UGA National Center for Home food preservation, Dr. Elizabeth Andress.

• Seek grant funding and/or support for canning supplies for training

• Facilitate county faculty mentoring program to support for 4-H and adult community training

• Prepare and review publications as needed.

Key educational methods: Continuing food safety education for food handlers

• Serv Safe® Training and Certification for food service managers/operators

• Food service workers/food handlers training (SafeStaff ®or equivalent) on site or elsewhere

• Use media to raise awareness and classes/programs to increase knowledge and competency of consumers and volunteers on safe food handling

• Face-to-face training: Food safety and quality update for FCS county faculty; training by state

government officials on food businesses regulation; other emerging programs and issues.

2. Brief description of the target audience

1. Improving fresh produce safety/ Small farm food safety
Target audience: Small farm owners; farm workers; produce handlers; consumers
2. Revitalizing home food preservation
Potential partners: Produce vendors; canning centers; regulators Target audiences: County faculty; adults (consumers/ volunteers); youth (4-Hers)
3) Continuing food safety education of food handlers
Target audiences: Food service operators: food handlers (adults; youth); consumers; volunteers, and county faculty

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	253818	604045	0	0

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

Patent Applications Submitted

Year: 2014
Actual: 4

Patents listed
1. Use of Bacteriophage Outer Membrane Breaching Proteins Expressed in Plants for the Control of Gram-negative Bacteria (CIP of 11238 and 12626)
2. Method for Increasing the Speed and Resolution of Gas Permeation Instruments
3. The Use of Hypotaurine and Related Compounds to Inhibit Enzymatic Browning in Food (CIP)
4. Sustained Release Devices for Repellents of Insects to Protect Horses and Other Animals

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	14	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- {No Data Entered}

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Change in knowledge related to processing, distribution, safety and security of food systems
2	Change in behavior related to processing, distribution, safety and security of food systems
3	Change in condition related to processing, distribution, safety and security of food systems

Outcome #1

1. Outcome Measures

Change in knowledge related to processing, distribution, safety and security of food systems

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	3436

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Proper home canning procedures can reduce incidents of food borne illness. With each case costing as high as $40,000, participants in food preservation programs can prevent or reduce high medical costs, as well as, loss of time at school and/or work.

What has been done
Food preservation classes were given to 86 residents of Clay County.

Results
Ninety-three percent of the participants in food preservation classes could correctly identify low acid and high acid foods with proper canning procedures on a post-class test.

One hundred percent of food preservation class participants stated they learned new skills and demonstrated those in preparing and processing products in class.

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

Outcome #2

1. Outcome Measures

Change in behavior related to processing, distribution, safety and security of food systems

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	1262

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Training and documentation is critical for the various food-safety program requirements and economic success of citrus growers, producers, packers, and harvesters in both domestic and international markets.

What has been done
A team consisting of one of our state specialists and three county Extension agents provided food hygiene, personal hygiene, and workplace health training and documentation to local citrus growers, producers, packers, and harvesters. In 2014, 12 of the 13 (88%) Indian River Citrus League packinghouses participated in the training programs, plus three other packinghouses in the state. More than 33 individual companies/businesses participated, resulting in 1,327 documented/trained employees in Food Safety. The overall 2014 Fresh Citrus Training/GlobalGap team coordinated teaching (English & Spanish) resulted in 5,959 trained in six program offerings. Indian River Citrus League estimates value of each program per person is approximately $50 per person based on training costs if they paid private consultants. Certificates are provided from each program for each participant/employee.

Results
Thus, the overall value of training was $297,950 = 5,959 trained @ $50/attendee/program). Certain Fresh Citrus training programs, i.e., Food Safety, Personal Hygiene and WPS, are considered ?major must? and failing to comply with audit requirements can result in failing the audit, causing the company extra costs in lost production and additional audit inspections/requirements. We have had many packinghouse express their gratitude for our training program and several made comments connecting the food safety/personal

hygiene/workplace health training and reduced employee absences (unplanned sick). They believe some of the reduction can be attributed to employees making behavior changes, and practicing healthier behaviors at work and home.

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

Outcome #3

1. Outcome Measures

Change in condition related to processing, distribution, safety and security of food systems

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	794

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Facing our complex social world today, one of the most vital questions is about knowing that the food we eat is safe. But can food safety practices reach beyond the places where food is processed? Hand washing is the single most effective way to prevent the spread of pathogens and communicable diseases. This agent conducted research regarding the transition of employee hand hygiene training, knowledge, attitudes, and behavior skill to hand hygiene practices away from the workplace for packinghouse workers.

What has been done
The purpose of the study was to evaluate relationships between repeated multi-year hand hygiene training delivered to Florida fresh citrus packers, and their self-reported hand hygiene attitudes, awareness, and practices away from the workplace that may contribute to these workers' overall health and health behaviors within the community. Participants were required to

have taken the training two times.To evaluate the impact of multi-year trainings on self-reported hand hygiene away from the workplace, a quantitative survey was designed and administered to volunteer English-speaking participants from five packinghouses (N = 74,) (Phase 1) and to a control group of volunteers (N = 75) without any packinghouse training (Phase 2). Frequencies, means, t-tests, and Pearson correlations were used for data analysis and to answer research questions.

Results
Results of this study show there is a relationship between multi-year hand hygiene training and citrus packinghouse workers attitudes, awareness, and practices away from the workplace. When compared to the control group, Florida fresh citrus packers receiving multi-year hand hygiene trainings in the workplace: 1) demonstrate stronger collective attitudes and beliefs about hand washing, and 2) exhibit higher awareness and frequency of self-reported practices regarding hand hygiene in non-work environments than individuals who have not participated in the training.

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

- Economy
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

Many parts of the state are still struggling due to the economy. This leads to greater numbers of people in need of help. Controversial issues such as climate change and GMOs take additional time and care when building relationships and trust with clientele, partners, and other stakeholders. Cuts to the university budget in year's past continue to have some impact. We are in the process of evaluating our Extension staffing needs statewide to ensure we are using our human resources most efficiently.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

UF and FAMU's key evaluations, both quantitative and qualitative, are reported under the State Defined Outcomes section. Ideally, we would like to have statewide data on more focused, key indicators.UF/IFAS is currently working on an "Extension Toolbox" in Qualtrics that will store common survey instruments and questions for all our major planned programs to be used by UF and FAMU Extension county faculty and state specialists. This will greatly improve our ability to gather statewide data on food safety, including the NIFA preferred indicators for this area: 1) the number of growers, producers, food workers

statewide completing GAPs, GMPs, HACCP, food safety certification (i.e., ServSafe), and on farm BMP programs to increase food safety, and 2) the number of viable technologies developed or modified for the detection or characterization of food supply contamination from foodborne threats.

Key Items of Evaluation

No additional information to provide.