

V(A). Planned Program (Summary)

Program # 4

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 |
|---------|---|-----------------|-----------------|----------------|----------------|
| 202 | Plant Genetic Resources | 0% | 0% | 1% | 0% |
| 204 | Plant Product Quality and Utility (Preharvest) | 0% | 0% | 8% | 0% |
| 301 | Reproductive Performance of Animals | 0% | 0% | 1% | 0% |
| 302 | Nutrient Utilization in Animals | 0% | 0% | 3% | 0% |
| 307 | Animal Management Systems | 0% | 0% | 1% | 0% |
| 311 | Animal Diseases | 13% | 0% | 11% | 0% |
| 315 | Animal Welfare/Well-Being and Protection | 0% | 0% | 1% | 0% |
| 401 | Structures, Facilities, and General Purpose Farm Supplies | 0% | 0% | 1% | 0% |
| 501 | New and Improved Food Processing Technologies | 15% | 0% | 14% | 35% |
| 502 | New and Improved Food Products | 13% | 0% | 11% | 0% |
| 503 | Quality Maintenance in Storing and Marketing Food Products | 12% | 0% | 13% | 25% |
| 511 | New and Improved Non-Food Products and Processes | 0% | 0% | 2% | 0% |
| 606 | International Trade and Development | 0% | 0% | 4% | 0% |
| 701 | Nutrient Composition of Food | 6% | 0% | 3% | 20% |
| 712 | Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins | 31% | 0% | 22% | 20% |
| 723 | Hazards to Human Health and Safety | 10% | 100% | 4% | 0% |
| | 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 | 2.6 | 0.0 | 0.5 | 6.0 |
| Actual Paid Professional | 3.3 | 0.3 | 2.0 | 11.8 |
| 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 |
| 576111 | 87619 | 587053 | 1565543 |
| 1862 Matching | 1890 Matching | 1862 Matching | 1890 Matching |
| 0 | 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

Educational programs were conducted with various clientele groups: **ServSafe education classes** were conducted for Extension agents and clientele; **food safety trainings** were provided to FACS, 4-H and ANR agents; food safety was taught as a part of specific college classes in foods and nutrition; **food preservation training** was provided to FACS agents; consumer resources were developed and distributed both in print and online; curriculum packages, lesson plans and other food safety teaching tools were developed and disseminated to Extension agents for use in county programming; and news releases, newspaper articles and radio scripts were developed for agents to use with media outlets in local communities.

New training opportunities were developed as requested by clients.

Research has been and continues to be conducted on food safety as related to poultry. Evaluation of novel chemistry techniques to disinfect or remove microbial pathogens from poultry products have been conducted in research and field studies. Individual processing plants in Georgia have been visited and provided with assistance.

Additionally, research was conducted on goat milk as an alternative to using cow milk in yogurt by testing caprine yogurts for texture and probiotic viability. The experimental yogurts were manufactured using goat milk produced at the Georgia Small Ruminant Research & Extension Center at FVSU. The results of the studies were disseminated through presentations at the scientific conferences and publications in refereed journals.

2. Brief description of the target audience

Extension specialists conducted training primarily targeted Extension agents. As a result, agents

provided adult and youth consumers, foodservice employees, care providers, volunteers and media with food safety education.

Educational programs targeted food industry managers and food service professionals, especially those working for poultry companies or poultry processing plants.

Researchers shared findings with the scientific community through invited presentations and publications.

3. How was eXtension used?

The **Food Safety** planned program has faculty serving as leaders and/or active members in one public **eXtension** Communities of Practice. Our faculty utilized Ask an Expert Widgets and offered various resources for the public.

Overall, the number of individuals with **eXtension** IDs has continued to grow. Current membership for UGA is 524; State of Georgia membership is 605.

There are 32 active Experts from Georgia on Ask an Expert, with 13 widgets on Georgia sites. There were 558 questions answered by UGA.

There are 150 members of Community of Practice in 46 of the 69 approved communities. (Up from 125 members in 59 communities in 2011)

V(E). Planned Program (Outputs)

1. Standard output measures

| 2012 | Direct Contacts Adults | Indirect Contacts Adults | Direct Contacts Youth | Indirect Contacts Youth |
|---------------|------------------------|--------------------------|-----------------------|-------------------------|
| Actual | 8385 | 199665 | 5411 | 9700 |

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 | 2 | 7 | 0 |

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of educational contact hours generated from formal educational programs presented directly to clientele by state faculty directly associated with this planned program.

| Year | Actual |
|------|--------|
| 2012 | 867 |

Output #2

Output Measure

- Number of significant publications including articles, bulletins and extension publications.

| Year | Actual |
|------|--------|
| 2012 | 32 |

Output #3

Output Measure

- Number of persons taking and passing the HACCP certification exam.

| Year | Actual |
|------|--------|
| 2012 | 209 |

Output #4

Output Measure

- Number of invited presentations by faculty directly resulting from the success of this planned program.

| Year | Actual |
|------|--------|
| 2012 | 30 |

Output #5

Output Measure

- Number of food handlers receiving ServSafe certification from Extension Agent programs.

| Year | Actual |
|------|--------|
| 2012 | 627 |

Output #6

Output Measure

- Food Preservation website number of files viewed

| Year | Actual |
|-------------|---------------|
| 2012 | 4100000 |

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

| O. No. | OUTCOME NAME |
|--------|---|
| 1 | Number of additional direct extension contacts made by county faculty not receiving federal funds, staff or volunteers as a direct result of the work of faculty receiving federal funds within this planned program. |
| 2 | Average percentage of increase food safety test scores as a result of programs conducted statewide. |
| 3 | Multiple or repeat attendance by food processing company personnel (ie, company sends more than one person to our course(s) from one year to the next) |

Outcome #1

1. Outcome Measures

Number of additional direct extension contacts made by county faculty not receiving federal funds, staff or volunteers as a direct result of the work of faculty receiving federal funds within this planned program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2012 | 16662 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Georgians are in need of sound, unbiased, research-based information. The specialists and county faculty who conduct research and study in their unique fields of expertise have the knowledge and information that is needed by local clientele. The ratio of state specialists and researchers to the local populations is prohibitive to wide spread knowledge dissemination.

What has been done

Georgia state specialists and provide research based knowledge and training that is then passed along to clientele by county agents.

Results

The county delivery system provides a local expert to deliver the research based information from the specialists to a multitude of clientele, reaching far beyond the scope of the state level specialists. The county level professional is able to localize and interpret the data and information to meet the needs of the specific community member, farmer, parent, homeowner, consumer, etc. The dissemination of information and education based on the terms of the local clientele provides a consumable product that can be put into practice by the layperson. The local delivery system exponentially expands the delivery of the expertise, knowledge, and research of the University to local constituents.

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|----------------|-------------------------|
| 202 | Plant Genetic Resources |

| | |
|-----|---|
| 204 | Plant Product Quality and Utility (Preharvest) |
| 301 | Reproductive Performance of Animals |
| 302 | Nutrient Utilization in Animals |
| 307 | Animal Management Systems |
| 311 | Animal Diseases |
| 315 | Animal Welfare/Well-Being and Protection |
| 401 | Structures, Facilities, and General Purpose Farm Supplies |
| 501 | New and Improved Food Processing Technologies |
| 502 | New and Improved Food Products |
| 503 | Quality Maintenance in Storing and Marketing Food Products |
| 511 | New and Improved Non-Food Products and Processes |
| 606 | International Trade and Development |
| 701 | Nutrient Composition of Food |
| 712 | Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins |
| 723 | Hazards to Human Health and Safety |

Outcome #2

1. Outcome Measures

Average percentage of increase food safety test scores as a result of programs conducted statewide.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2012 | 20 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|----------------|---|
| 503 | Quality Maintenance in Storing and Marketing Food Products |
| 712 | Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins |

Outcome #3

1. Outcome Measures

Multiple or repeat attendance by food processing company personnel (ie, company sends more than one person to our course(s) from one year to the next)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2012 | 33 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|----------------|---|
| 501 | New and Improved Food Processing Technologies |
| 712 | Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins |
| 723 | Hazards to Human Health and Safety |

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

Brief Explanation

Economy: Budget shortages have resulted in the loss of key faculty and county Family and Consumer Sciences Agent positions and remain a critical issue. Decreases in state and external funding have limited research capacity. Tightened budgets in the food industry have reduced training attendance.

Government Regulations: Regulations requiring certification of restaurant managers/designated employee increased demand for ServSafe training.

Competing Programmatic Challenges: Lack of support for dairy goat products research, probably resulted from competing public priorities on cow milk research due to the cow milk driven society and public priorities. In addition, emphasis on biotechnology, genetic engineering and stem cell research programs have been extreme challenges to dairy goat research for enhancing limited small goat farmers.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Preventing Foodborne Illness: Agent knowledge was assessed by written tests specific to the content provided. In some instances, pre- and post-tests were used to assess knowledge gained. In **ServSafe** trainings, agents were administered the certification exam from the Educational Foundation of the National Restaurant Association

HACCP Training for the Food Industry: Overall evaluations from participants were consistently high again in 2012. The results of the evaluations were distributed to all speakers, and reviewed during program planning for the 2013 calendar year. The 2012 workshops were well attended and received high marks on the participant evaluations, ranging from 4.39 to 4.89 out of possible 5.0 in the overall course rating.

Improving food safety in poultry processing and production (farm to fork): Problem solving activities were able to prevent several poultry processing plants from failing additional food safety inspections and prevented possible plant closings.

Bio-security/Ag-security for Georgia poultry producers: Evaluation will be based

on negative results; that is the failure of AI to infect Georgia poultry flocks will be considered a successful outcome. Data will be collected from participants in trainings and state and federal agencies responsible for poultry health.

Food Processing, Production and Safety: Two experiments on textural properties and viability of probiotics in normal goat milk yogurts were conducted. The first study found that locust bean and xanthum were choice of gums for the best textural quality of caprine milk yogurt. The second study showed that the use of gums in goat milk yogurt could maintain the probiotics viability and improve the texture, which may lead to higher consumer acceptability.

Key Items of Evaluation

Food Safety workshops were well attended and received high marks on satisfaction and increase in knowledge on participant evaluations.

Research continues to provide valuable information on food safety and human health.