

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
501	New and Improved Food Processing Technologies	15%			
502	New and Improved Food Products	15%			
504	Home and Commercial Food Service	70%			
	Total	100%			

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	5.0	0.0	0.0	0.0
Actual Paid Professional	10.0	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
255000	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1338664	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

Brief description of the Activity

In 2012, the Food Safety planned program at West Virginia University Extension worked toward reducing the incidence of food-borne illness by eliminating causes of microbial resistance to contaminants, educating consumers and food safety professionals, and developing safe food processing technologies.

Community Food Preparation

In 2012, there were **32** educational activities in the community food preparation program area, **277** direct adult contacts and **14** direct youth contacts. The major initiatives included food preservation and canning workshops, and Venison 101.

Commercial Food Preparation

In 2012, there were **21** educational activities in the commercial food preparation program and **289** direct adult contacts. The major initiatives include food safety for food banks, ServSafe® Manager Food Safety Training, a food business workshop, a food defense workshop, and the Better Process Control School for Acidified Foods.

This year, Extension Specialist, Litha Sivanandan, was on maternity leave and another Food Safety Specialist in Extension passed away. As a result the number of contacts and activities in this program area is lower than in previous years. Dr. Sivanandan's research is to identify and develop food products using the isoelectric processing, a WVU-patented technology, and to offer its application through research, outreach, and educational opportunities in business plan, risks and liabilities, process and product technology transfer, product and process development, product/process safety, and product marketing/commercialization.

Beef Quality Assurance

In 2012, there were **15** educational activities in the commercial beef quality assurance program area and **374** direct adult contacts and **80** direct youth contacts. The major initiatives included beef quality assurance certification, beef quality assurance training for students, beef quality assurance for WVU farm workers, NCBA stockman and stewardship sessions, WVU-ES winter education series, the WV cattlemen's short course for producers, the West Virginia quality assurance feeder calf sale, and 4-H Beef Quality Assurance. The programs are a valuable tool to help producers keep up-to-date on new technology to insure that proper training and techniques are utilized when administering vaccines or animal health products. The members of the WV feeder cattle marketing pools and consignors to the WV Bull evaluation programs are recertified every two years.

2. Brief description of the target audience

The target audience for home and commercial food safety programs are WV citizens who can or preserve foods, commercial food processors, beef producers, WVU Extension agents. The target audience for the BQA program is adult and youth beef producers, 4-H and FFA youth livestock exhibitors, WVU and Potomac State students, Extension faculty and other livestock industry personnel in beef cattle production.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	986	23500	94	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	0	3	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of educational activities

Year	Actual
2012	67

Output #2

Output Measure

- Number of educational materials created or updated

Year	Actual
2012	1

Output #3

Output Measure

- Number of educational materials distributed

Year	Actual
2012	5164

Output #4

Output Measure

- Number of professional presentations

Year	Actual
2012	2

Output #5

Output Measure

- Number of outside organizations collaborating within this program area

Year	Actual
2012	12

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of participants who increase their knowledge
2	Number of participants who improve or increase skills
3	Number of participants who are motivated to change their behavior
4	Number of participants who change a behavior or use a new skill
5	Number of people certified or license to practice in the field
6	Number of groups or organizations that change their procedures and/or policies
7	Number of new groups or organizations that are established or enhanced
8	Number of physical or social effects, such as disease, pollution, or crime, that are reduced or eliminated
9	Number of economic improvements
10	Number of environmental improvements

Outcome #1

1. Outcome Measures

Number of participants who increase their knowledge

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	454

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

BQA training provides an opportunity for direct contact with producers and incorporates a method of "hands on teaching." The WV BQA certification program follows the guidelines established by the Mid-Atlantic BQA program where producers are required to participate in Level I and II classroom training program.

What has been done

The major initiatives were beef quality assurance certification, beef quality assurance training for students, beef quality assurance for WVU farm workers, NCBA stockman and stewardship sessions, WVU-ES winter education series, the WV cattlemen short course for producers, and the West Virginia quality assurance feeder calf sale. A Youth Quality Assurance Retreat was conducted in November. The program and curriculum was developed by WVU-ES specialists.

Results

455 participants gained knowledge and skill in maintaining animal welfare and the proper use of beef products.

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
502	New and Improved Food Products

Outcome #2

1. Outcome Measures

Number of participants who improve or increase skills

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	262

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Dial gauges should be checked for accuracy before use each year. Gauges that read high cause under-processing and may result in unsafe food. Low readings cause over-processing. Pressure adjustments can be made if the gauge reads up to 2 pounds high or low. Replace gauges that differ by more than 2 pounds.

What has been done

Canner pressure gauge testing training is part of the curriculum on canning. Canning workshops are presented at the county level many times throughout the year.

Results

262 participants increased skill in testing dial gauges on pressure canners.

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service

Outcome #3

1. Outcome Measures

Number of participants who are motivated to change their behavior

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Number of participants who change a behavior or use a new skill

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Number of people certified or license to practice in the field

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	148

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Preventing food borne illness and death remains a major public health challenge. Medical bills and loss of productivity add to the cost. The incidence of food borne illnesses could be greatly reduced with the adoption of established food safety practices in the production, transportation, storage, preparation and service of food. ServSafe Food Protection Manager Certification is accredited the by the American National Standards Institute (ANSI)-Conference for Food Protection.

What has been done

ServSafe® Manager Food Safety Training was held online and onsite. Extension Educators in Jefferson, Kanawha, Harrison, and Mercer counties taught classes required in the ServSafe Food Protection Manager curriculum.

Results

A total of 148 trainees gained or renewed nationally recognized food safety manager certification in 2012.

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service

Outcome #6

1. Outcome Measures

Number of groups or organizations that change their procedures and/or policies

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	121

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The intent of the calf pool is to offer small to mid-size beef producers an opportunity to build marketing power.

What has been done

A Microsoft Access database application specifically developed for calf pools is utilized to manage data associated with RFID tags. The database integrates all identification and pooling activities including producer enrollment and tag allocation, recording of premise of origin and birth date for process verification and shipment day activities. The BQA Administrator database can easily import data from the individual pool databases used when delivering cattle at a calf pool.

Results

--Twelve marketing pools (9 Gold & 3 Silver) composed of 121 producers participating in three board sales submitted marketing data on 4,892 calves.

--One hundred twenty one producers participated in the pools reporting data and marketed an

average of 40 calves. These calves returned an average of \$3,539 more per producer relative to graded sale prices.

--These data indicate that calf pool programs are accessible to smaller and mid-size producers. The continued use of RFID technology and participation in a process verification program demonstrated that producers in West Virginia can successfully comply with a potential National Animal Identification System, and will be able to provide feeder cattle to buyers that can qualify for beef export.

The success of marketing of feeder cattle through calf pools is clearly documented by these data. The price advantages, additional weight gains and savings in marketing charges have a total value in 2012 of \$848,000.

4. Associated Knowledge Areas

KA Code	Knowledge Area
502	New and Improved Food Products

Outcome #7

1. Outcome Measures

Number of new groups or organizations that are established or enhanced

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Better Process Control School for Acidified Foods was offered yearly in West Virginia under the leadership of Cameron Hackney, now deceased. West Virginia did not apply to offer the school this year.

What has been done

An arrangement was made with Virginia Tech to offer the school this year in West Virginia and in future years.

Results

Commercial acidified food producers were certified this year and will continue to be certified in coming years.

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
502	New and Improved Food Products
504	Home and Commercial Food Service

Outcome #8

1. Outcome Measures

Number of physical or social effects, such as disease, pollution, or crime, that are reduced or eliminated

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Clostridium botulinum causes the deadly disease known as botulism. When this organism grows under conditions present in canned foods it can produce a neurotoxin that is one of the most potent poisons known. Before acidified products can be sold (even at farmers markets) the producer has to go to a school (offered by WVU-ES) and pass all the tests. He or she can then register with the FDA. Before any product can be produced and sold, a process authority has to approve the process and tell the producer what records to keep.

What has been done

Products first go to the WV Dept. Agriculture. They inspect the facility and verify the process flow diagram and do the nutritional analysis. Extension takes the product, tests it, and specifies the process to destroy spoilage organisms and pH for safety. The processor has to have our letter on file and use our information to get FDA approval so the product can be sold. This service is provided free; if the producer goes out of state it can cost \$100 per food item.

Results

Those who purchased acidified products from vendors in WV were protected from food poisoning caused by Clostridium botulinum.

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
502	New and Improved Food Products
504	Home and Commercial Food Service

Outcome #9

1. Outcome Measures

Number of economic improvements

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Marketing "All Natural" offers an opportunity to add value to means of adding value to feeder cattle. The Natural food industry has been expanding across the country and has offered a number of opportunities for producers willing to develop or supply a niche market. The demand for Natural meats is growing like the rest of the industry yet is the only sector that is regulated by USDA or third party certification.

What has been done

A majority of WV producers raise cattle that would qualify for a natural program unless they have experienced a disease outbreak. Calves remain natural for the most part until weaning. The weaning process like the other quality assurance calves is a necessity for producers to add value. The natural opportunity best suits the larger producers or marketing pools with less than five cooperators to insure quality loads of calves can be assembled.

Results

The 2012 WV Quality Assurance Sale did feature 204 steers and 261 heifers from three marketing pools. The heavier 600 lb calves realized about a \$40.00 per head advantage over the

Gold Quality Assurance calves. The natural heifers brought the same dollars per head as the Gold QA heifers (\$840.00/head). Not all of the advantage was attributed to the natural qualification since a number of the loads went to buyers that are not feeding for the natural market, a large percent of the difference this year can likely be attributed to the reputation of the pools. The feeder cattle market prices will eventually stabilize and the value difference for natural cattle will become more distinct. The opportunity to participate and add value will improve for the producer willing to meet the required qualifications.

4. Associated Knowledge Areas

KA Code	Knowledge Area
502	New and Improved Food Products

Outcome #10

1. Outcome Measures

Number of environmental improvements

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Other (Attrition in personnel - One specialist was on leave and another passed away during the year.)

Brief Explanation

V(I). Planned Program (Evaluation Studies)

Evaluation Results

The 2012 WV Quality Assurance Sale did feature 204 steers and 261 heifers from three marketing pools. The heavier 600 lb calves realized about a \$40.00 per head advantage over the Gold Quality Assurance calves. The natural heifers brought the same dollars per head as the Gold QA heifers (\$840.00/head). Not all of the advantage was attributed to the natural qualification since a number of the loads went to buyers that are not feeding for the natural market, a large percent of the difference this year can likely be attributed to the reputation of the pools. The feeder cattle market prices will eventually stabilize and the value difference for natural cattle will become more distinct. The opportunity to participate and add value will improve for the producer willing to meet the required qualifications.

Key Items of Evaluation

