

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Global Food Security and Hunger - Agricultural Systems

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
102	Soil, Plant, Water, Nutrient Relationships	10%	10%	10%	0%
111	Conservation and Efficient Use of Water	10%	10%	10%	0%
112	Watershed Protection and Management	10%	10%	10%	0%
131	Alternative Uses of Land	10%	10%	10%	0%
205	Plant Management Systems	10%	10%	10%	0%
307	Animal Management Systems	10%	10%	10%	0%
402	Engineering Systems and Equipment	10%	10%	10%	0%
403	Waste Disposal, Recycling, and Reuse	10%	10%	10%	0%
601	Economics of Agricultural Production and Farm Management	10%	10%	10%	0%
605	Natural Resource and Environmental Economics	10%	10%	10%	0%
Total		100%	100%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	21.9	5.0	18.4	0.0
Actual Paid Professional	22.8	3.5	26.0	0.0
Actual Volunteer	376.0	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
473758	212446	474101	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
670306	318782	1066169	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1989365	298907	2406485	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Conduct research experiments that educate and solve applied problems, establish partnerships to identify needs and develop solutions, conduct workshops, both traditional procedures and hands-on, and meetings to provide training for farmers and educators, organize and conduct state and regional conferences, establish on-farm demonstrations, develop enterprise budgets, develop products, curriculum, and resources for use by educators and directly by producers, and conduct assessments as needed to evaluate progress

2. Brief description of the target audience

Commercial producers, 4-H youth, Master Gardeners, state and federal agency personnel, Extension educators, policy makers, consumers and supermarket chain store buyers.

3. How was eXtension used?

Specialists and agents participated in multiple communities of practice, including Corn and Soybean.

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	95597	92281	28452	1820

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	31	40	71

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of agriculture systems educator training workshops.

Year	Actual
2012	9

Output #2

Output Measure

- Number of agriculture systems field research experiments

Year	Actual
2012	45

Output #3

Output Measure

- Number of agriculture systems on-farm demonstrations

Year	Actual
2012	45

Output #4

Output Measure

- Number of agriculture systems producer training workshops

Year	Actual
2012	203

Output #5

Output Measure

- Number of existing and future nutrient management planners and educators trained

Year	Actual
2012	147

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percent increase in gross income from agriculture attributable to extension efforts.
2	Increase in farms and acres subject to organic management due to extension programming efforts which will increase overall profitability of organic agriculture (total annual sales).
3	Increase in the amount of agricultural land under best management practices due to extension programming efforts.
4	Increase in the number of individuals improving water quality and reducing erosion through participation in an advanced grazing system program.
5	Increase in the number of nutrient management plans, resulting in more efficient utilization of nutrients, and in the number of plan writers trained by Extension.
6	Increase the profitability (total annual sales) of small, part-time and limited resource farmers through sustainable production of specialty agriculture crops and livestock products.

Outcome #1

1. Outcome Measures

Percent increase in gross income from agriculture attributable to extension efforts.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research

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)

Improved financial security of individuals, families, and agricultural businesses is critical for the long-term economic health of Virginia. Profitable and successful farms and small businesses are the cornerstone of robust families and the communities in which they live. Crop and livestock producers need to balance farm and feed resources to maximize profits.

What has been done

Agents and specialists conducted on-farm demonstrations, field days, and workshops that demonstrated profitable practices to producers. Crop variety and management evaluations, profitable dairy production strategies meetings, beef production programs, and many other specialty crop and animal production meetings and demonstrations were held.

Results

Agricultural profitability increased slightly in Virginia last year, due to slightly higher commodity prices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships

205	Plant Management Systems
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management
605	Natural Resource and Environmental Economics

Outcome #2

1. Outcome Measures

Increase in farms and acres subject to organic management due to extension programming efforts which will increase overall profitability of organic agriculture (total annual sales).

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	450000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Organically raised products often garner a premium from consumers, enhancing producer's profitability.

What has been done

Meetings, demonstrations, and a large conference, the Virginia Biological Farming Conference were used to educate and teach the process of organic production.

Results

Farmers, USDA agriculture professionals, representatives from non-government organizations and youth attended the conference and meetings. Virginia producers reported organic sales equal to about one percent of all U.S. organic sales.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships

112 Watershed Protection and Management
205 Plant Management Systems

Outcome #3

1. Outcome Measures

Increase in the amount of agricultural land under best management practices due to extension programming efforts.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	600000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Approximately 25 percent of Virginia's land area is used for some kind of agricultural activity and these activities can be the source of nutrients and sediment pollution. Best management practices (BMPs) reduce these losses and improve water and ecosystem quality.

What has been done

Virginia's five priority agricultural conservation practices have been, and will continue to be, a focus for additional reductions. These include:

- * Nutrient Management Planning
- * Cover Crops
- * Conservation Tillage
- * Riparian Buffers
- * Livestock Exclusion

Results

To date more than 600,000 acres of agricultural land is managed using BMPs that support many positive ecosystem services and protect water quality in the Chesapeake Bay. Agricultural clients statewide depend on VCE to provide information about benefits and implementation of these BMPs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
403	Waste Disposal, Recycling, and Reuse
601	Economics of Agricultural Production and Farm Management
605	Natural Resource and Environmental Economics

Outcome #4

1. Outcome Measures

Increase in the number of individuals improving water quality and reducing erosion through participation in an advanced grazing system program.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	300

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Grazing animals make up a large portion of Virginia's agricultural income and their management affects millions of acres. Water quality can be negatively impacted by poor grazing practices and overgrazing.

What has been done

Conferences, short courses, regional meetings and other trainings have been conducted to demonstrate the economic and environmental advantages of advanced grazing systems.

Results

Additional fencing and advanced grazing techniques have been implemented.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
205	Plant Management Systems
307	Animal Management Systems

Outcome #5

1. Outcome Measures

Increase in the number of nutrient management plans, resulting in more efficient utilization of nutrients, and in the number of plan writers trained by Extension.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	300000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

All large animal feeding operations in Virginia, biosolids applicators and many farms that receive cost share money, are required to have nutrient management plans.

What has been done

Twice a year we conduct a two day science-based training on soils and crop production that the planners undergo before taking the nutrient management exam. We also do the Phosphorus Index component of the three day session organized by the Department of Conservation and Recreation.

Results

This year we trained a total of 35 new nutrient management planners. These planners and those certified in previous years wrote over 300,000 acres of nutrient management plans for permitted farms this year.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
205	Plant Management Systems
307	Animal Management Systems
403	Waste Disposal, Recycling, and Reuse
601	Economics of Agricultural Production and Farm Management
605	Natural Resource and Environmental Economics

Outcome #6

1. Outcome Measures

Increase the profitability (total annual sales) of small, part-time and limited resource farmers through sustainable production of specialty agriculture crops and livestock products.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	2000000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Improved financial security of individuals, families, and agricultural businesses is critical for the long-term economic health of Virginia. Profitable and successful farms and small businesses are the cornerstone of robust families and the communities in which they live. Producers need to balance farm resources and purchased inputs to maximize profits. Many small farmers in Virginia are growing niche market crops. They are selling these crops at farmers markets to maximize net revenue per acre compared to growing commodity crops (e.g. corn, wheat, soybeans) whose prices are determined on world markets. Since niche market crops are grown on limited acres in the nation, it is extremely difficult to find enterprise budgets for these crops.

What has been done

Enterprise budgets for niche market crops such as blue berries, black berries, straw berries, raspberries, water melons, cantaloupes, okra, baby lima beans, cut flowers fresh market

tomatoes and sweet corn, and bell peppers, black turtle beans, goat production and brown eggs were aggregated and budgets were sent to Agriculture Management Agents in the Small Farm Outreach Program at VSU

Results

Producers gained knowledge to determine breakeven costs for niche market crops grown on their small farms. Then the producers were able to set sales prices that were greater than their costs of production and determine net profit for each crop grown. Consequently, producers will be able to determine the optimal acreage of crops to be grown that would maximize profitability their farms.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

Weather extremes affect all facets of production agriculture. The extent of of this impact depends of the severity of the weather events. The overall slow economic growth may reduce opportunites for lending and investment in agriculture. Higher input costs for crops and livestock may reduce opportunities for profits.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}