V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Plant Biotechnology

☑ 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
201	Plant Genome, Genetics, and Genetic Mechanisms			10%	
204	Plant Product Quality and Utility (Preharvest)			45%	
206	Basic Plant Biology			45%	
	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	0.0	0.0	1.0	0.0
Actual Paid Professional	0.0	0.0	1.0	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
0	0	59747	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	29428	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

- Conduct research project
- Develop genetically enhanced plants
- Develop efficient micro-propagation systems
- Present data at conferences
- Develop fact sheets for the local population
- Publish results in scientific journals

2. Brief description of the target audience

The target audiences are the local crop farmers and back yard growers. These producers normally have less than two acres under production. The Virgin Islands has only three producers with total production acreage over two acres

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	0	0	0	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	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of publications

Year	Actual
2012	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of local farmers growing micro-propagated sweet potato, cassava and hybrid papaya

Outcome #1

1. Outcome Measures

Number of local farmers growing micro-propagated sweet potato, cassava and hybrid papaya

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Consumers want and demand more locally grown fruits and vegetables. The cost of fertilizer continues to increase causing less fertilizer to be used in papaya production. Consumers want to know what minimum fertilizer levels are needed for papaya production on calcareous soils. In sweet potato, they notice production decreasing and the plants looking sick from viruses. Growers are looking for clean disease-free material to plant.

What has been done
A papaya plot was established on calcareous soils which have a natural high potassium level and trials were conducted to evaluate amount of supplemental potassium needed for production. Virus-free sweet potato lines were obtained from the USDA germplasm collection. Sweet potatoes were tissue culture micropropagated to maintain clean disease-free material. Clean sweet potatoes were established under field conditions and made available to local growers.

Results
Papaya plant growth and production data was collected over time from three levels of potassium applied fertilizer. No significant difference was observed in plant growth and fruit set from 0, 50% or 100% recommended potassium levels.
Sweet potatoes grow more vigorously and set tuberous roots earlier on virus-free plant. The vigorous growth helps in suppressing weed populations. Production that is one month earlier can be obtained from the clean sweet potato material.

4. Associated Knowledge Areas

KA Code	Knowledge Area
201	Plant Genome, Genetics, and Genetic Mechanisms

204	Plant Product Quality and Utility (Preharvest)
206	Basic Plant Biology

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Other (Fed certification of transgenics)

Brief Explanation

Hurricanes are a yearly threat to research on plant material and institutional infrastructure.
Being a small island, the economy is greatly influenced by the closure of the few key local industries. Reduction in appropriations results in less supplies and man-power to complete goals. Regulations to work with transgenic material in research has become extensive and excessive paperwork is now required which is time consuming and provides little information or environmental benefit.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

None

Key Items of Evaluation

Customer use of technology
Customer satisfaction
Customer suggestions for improvement