

Plant genetic resources, breeding and production systems

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Plant genetic resources, breeding and production systems

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			20%	
202	Plant Genetic Resources			20%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants			25%	
204	Plant Product Quality and Utility (Preharvest)			5%	
205	Plant Management Systems			30%	
	Total			100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	12.9	0.0
Actual	0.0	0.0	18.3	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	1020157	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	1652934	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	64031	0

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V(D). Planned Program (Activity)

1. Brief description of the Activity

1 Development and release of improved cultivars of crops of economic importance

- Taro genotypes with tolerance to the taro leaf blight were imported from the University of Hawaii.
- After final evaluations, a tropical-type sweet potato genotype has been selected for release under the cultivar name 'Pujols'.
- The evaluations needed for the release of two tropical pumpkin cultivars, 'Verde Luz' and 'Taina Dorada', were completed.
- Three new genotypes of Musa spp, identified as tolerant to the sigatoka disease, were imported and evaluation began on their adaptability to our production system and market demands.

2 Electronic publications of descriptions of germplasm collections

- A web site for the vegetable breeding program, with special emphasis on tropical pumpkin, and a Blog for turf management, were developed during the past fiscal year.

3. Distribution of germplasm to scientists and the public

- The AES seed program offered for sale seeds and setts of varieties adapted to local conditions of the following crops: bean, pigeon pea, field corn, sweet pepper, tropical pumpkin, sweet potato, tanager, banana, plantain, cassava and taro.
- The AES germplasm collections were used as sources of genetic material for local producers.

4. Publish technology packages describing best management practices for crops of economic importance.

- A CD on BMP for post harvest management of plantains and bananas was published in collaboration with the Agricultural Extension Service.

5. Hosting field days for stakeholders at different Substations in collaboration with the Agricultural Extension Service, and organize field days to seed production fields, germplasm collections and other experimental fields.

- The root and tubers commodity group held various field days in AES facilities and in private farms. In these field days BMP and newly developed varieties were showed for several crops including tanager, sweet potato and taro. The vegetable crops and fruits commodity groups also hosted field days during the year. In coordination with the Agricultural Extension Service, program personnel held a field demonstration and a workshop on pruning and management of fruits orchards.

6- Increased on-farm research to validate new technology

- On farm trials to validate the performance of legumes as cover crops for citrus orchards were continued, and others to validate the use of Bahiagrass for erosion control in avocado orchards were concluded.
- A 16 acre validation trial was established to evaluate the adaptation of new maize varieties for forage production.
- Advanced genetic lines of sweet potato were planted on farmers fields in the southern coastal valleys, to evaluate their performance under commercial settings.

7- Publication of research results in bulletins for farmers, and in refereed journals for scientists.

- Ten articles were published in refereed journals by the program's personnel.

8. Presentations of research results at scientific meetings

- Twenty seven presentations at scientific meetings were made by the program's personnel.

2. Brief description of the target audience

Targeted audience consists of farmers, government professionals, legislators, county agents, scientists, USDA professionals, and professionals from the private sector.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	0	0	0	0
2008	0	0	0	0

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

Patent Applications Submitted

Year	Target
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Plan:	0
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2008:	0
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Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	2	
2008	0	10	10

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Number of stakeholders to adopt the proposed BMPs.

Not reporting on this Output in this Annual Report

Output #2

Output Measure

Focus groups of collaborators' opinions of the new technologies being validated

Year	Target	Actual
2008	1	0

Output #3

Output Measure

The number of "hits" on project-related web sites Records of the sale of hard copies of AES publications.

Year	Target	Actual
2008	1200	1500

Output #4

Output Measure

Records of the number and type of germplasm accessions distributed to scientists and the public.

Year	Target	Actual
2008	220	200

Output #5

Output Measure

Number of participants in the field days coordinated with Extension

Year	Target	Actual
2008	120	170

Output #6

Output Measure

Number of students attending field days to seed production fields, germplasm collections and other experimental fields.

Year	Target	Actual
2008	120	120

Output #7

Output Measure

Number of refereed publications

Year	Target	Actual
2008	2	10

Output #8

Output Measure

Number of non-refereed publications

Year	Target	Actual
2008	1	11

Output #9

Output Measure

Number of presentations in scientific meetings

Year	Target	Actual
2008	1	27

V(G). State Defined Outcomes

O No.	Outcome Name
1	Number of stakeholders to adopt the proposed BMPs
2	Records of the sales of seed of improved cultivars at the Substations.

Outcome #1

1. Outcome Measures

Not reporting on this Outcome for this Annual Report

2. Associated Institution Types

3a. Outcome Type:

3b. Quantitative Outcome

Year	Quantitative Target	Actual
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Competing Programmatic Challenges
- Other (Increases in the price of fertilizers.)

Brief Explanation

Unlike in mainland US, Puerto Rico is already in the third year of an economic recession which has resulted in reduced local economic activity, declining government income, and falling appropriations for the state university. Research has been further affected by increases in operational costs, particularly in the cost of utilities. The price of fertilizers also remained relatively high, directly affecting the profitability of crop production and farmers capacity to incorporate more of the recommended inputs into their operations.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

During (during program)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}