

Integrated Management of New and Emerging Pests

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Integrated Management of New and Emerging Pests

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
211	Insects, Mites, and Other Arthropods Affecting Plants			29%	
212	Pathogens and Nematodes Affecting Plants			43%	
213	Weeds Affecting Plants			2%	
215	Biological Control of Pests Affecting Plants			4%	
216	Integrated Pest Management Systems			22%	
	Total			100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	19.7	0.0
Actual	0.0	0.0	13.1	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	462533	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	483364	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	57097	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Research program priorities remain unchanged from 2006. Program areas are: (1) registering new pesticides; (2) testing 'reduced risk' pesticides; (3) validating and developing integrated management alternatives for pests, diseases, and weeds; and, developing pest and disease taxonomic expertise in key pathogen and insect groups. PRAES is still struggling to transition into strategic, multidisciplinary approaches to crop protection such as the development of Pest Management Strategic Plans (PMSPs). During 2007, PRAES allocated 13.1 Scientist years (SY) to address IMNEP program's goal activities, for a net reduction of 1.3 SY from FY2006. A brief activity summary follows:

-PRAES continues active participation within the Southern Pest Detection Network (SPDN). Diagnostic docents attended two specialized training symposia, and offered 5 participant training seminars for peers, government and industry. Major efforts are underway in the characterization bacterial, viral, and fungal diseases, and insect pests in cucurbits, ornamentals, coffee, palms, citrus, and other crops. In FY2007, PRAES allocated 3.8 SY (28.7%) to pest and disease diagnostic activities, or an increase of 0.5 SY from 2006.

-A Pest Strategic Management Plan (PSMP) for fresh tomato and pepper production is in progress. PRAES has as a goal to establish PSMPs for major commodities to assist with defining priorities for the program. In FY2007, PRAES allocated 0.9 SY (6%) to development of PSMPs.

-For some time now, PRAES new pesticide registration activities have been diminishing due to changes in federal legislation. Four projects (watermelon, plantain, citrus, tomato and avocado) address testing of "reduced risk" pesticides. In FY2007, PRAES allocated 1.4 SY (10%) for a net reduction of 1 SY from 2006.

-Innovative integrated pest management projects, such as management of new watermelon and avocado diseases, economic threshold development for key tomato pests, and natural enemy mass-rearing for coffee, continue to provide producers with cutting-edge pest management solutions. Other important projects now focus on new and potentially devastating problems like: the recent introduction of the coffee berry borer, cucurbit vine decline, and on black sigatoka management. For FY2007, PRAES allocated 8.9 SY (62%) to research on pest, and disease management.

2. Brief description of the target audience

•Extension Specialists and Agents; •Academic Programs Faculty; •Producers and Commodity Groups; •Consumers; and •Federal and State Agricultural Agencies (PRDA, USDA/APHIS, USDA/ARS, USDA/NRCS).

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
2007	0	0	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	3	3

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Number of 'Pest Management Strategic Plans' (PMSPs) developed

Year	Target	Actual
2007	2	0

Output #2

Output Measure

Number of peer-reviewed articles in major scientific journals resulting from program activities.

Year	Target	Actual
2007	3	3

Output #3

Output Measure

Peer reviewed articles in local Scientific Journals resulting from program activities.

Year	Target	Actual
2007	5	10

Output #4

Output Measure

Abstracts or oral presentations in professional scientific society meetings resulting from program activities.

Year	Target	Actual
2007	8	20

Output #5

Output Measure

Poster presentations in professional scientific society meetings resulting from program activities

Year	Target	Actual
2007	9	4

Output #6

Output Measure

Number of joint Research-Extension activities that include pest diagnostics and identification, use of reduced impact pesticides, or research on pesticide impact assessment on non-target beneficial organisms.

Year	Target	Actual
2007	1	3

Output #7

Output Measure

Number of program-sponsored scientific events, like symposia, topic conferences, and open houses

Year	Target	Actual
2007	2	0

V(G). State Defined Outcomes

O No.	Outcome Name
1	Number of stakeholders with increased knowledge on emerging pests and aware of non-target pesticide effects
2	Number of persons that adopted reduced risk pesticides and practices
3	Number of farmers reporting decreased losses due to key and emerging pests

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

Competing Programmatic Challenges

Other (Challenge of dealing with multiple crops, weakness of commodity groups, need to improve transfer mechanisms)

Brief Explanation

Currently, one disappointing aspect of the IMNEP program has been our inability to gauge progress in technology adoption outcomes. The basic approach of research and development programs in agriculture is to seek solutions to important problems affecting agricultural sectors. Often, much trial and error is involved, and it is not easy to measure impact when programs are in their initial years. Furthermore, a new way of doing business requires constant communication with stakeholders to ensure the appropriateness of research in the solution of their most pressing problems. Our frustration has been not to be able to simultaneously seek new research directions to attain results based on cutting edge science, while at the same time gauging stakeholder satisfaction and approval. One aspect of this failure is given in the nature of agriculture in Puerto Rico, where commodity groups are mostly non-existent or weak. Instead of 3-5 main commodities, we deal with many crops some grown in thousands of acres; others just in a handful of acres. We need to improve the connection between research and extension and develop transfer mechanisms tailored to the conditions of different types of farmers. In essence, it is conceivable that IMNEP-based research is in fact being adopted, and better pest management is occurring thanks to our research, but we are still trying to find a reliable mechanism to ascertain this fact.

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

1. Evaluation Studies Planned

During (during program)

Other ()

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}