

Plant and Integrated Pest Management Systems

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Plant and Integrated Pest Management 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
205	Plant Management Systems			25%	
211	Insects, Mites, and Other Arthropods Affecting Plants			15%	
216	Integrated Pest Management Systems			60%	
	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	19.0	0.0
Actual	0.0	0.0	12.2	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	546771	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	1713072	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	57488	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

There are several expected outputs (i.e., activities, services, events, and new crops that reach people) designed to assist a broad, diverse group of stakeholders by transferring scientific information to stakeholders and solving problems. All activities of this planned research program will ensure that people have equality of service and access to CAES facilities to receive direct assistance from scientists. The following activities are planned: (1) CAES scientists will partner with stakeholders and participate in their organizations as members or officers, (2) CAES scientists will conduct workshops or meetings for stakeholders, (3) experiments will be performed on stakeholders' properties as well as on CAES research farms, (4) diagnostic services will be provided to stakeholders, (5) training on IPM practices and other methodologies will be provided to stakeholders, (6) staff members will disseminate written information on research findings by presenting scientific displays at agricultural fairs and giving talks and interviews to civic groups, and (7) staff members will work with the media and provide information on scientific discoveries. Public service is an important component for all output measures. For example, all state residents are allowed to enter CAES facilities and request direct assistance on diagnosing insect or plant disease problems. In this approach for delivering services, about 21,000 stakeholders are expected to benefit from these activities annually. CAES scientists are members or officers in at least 133 stakeholder groups. This provides opportunities for stakeholder input on the research program and facilitates reporting of research results. The non-traditional stakeholders are reached at agricultural fairs when they visit and inquire about CAES displays and via newspaper, radio, and TV reports. Two open houses are scheduled annually on CAES properties to allow the public to hear oral presentations on research results and to offer comments. Hundreds of talks and interviews are given to civic groups and the media to convey research results and to receive public input. Research experiments are important activities that lead to solutions to problems or information on new crops. Whenever possible, these experiments are conducted on farms or other private properties to encourage stakeholder engagement in the research. Results of these output activities lead to specific outcomes, such as reducing pesticide use, controlling insects or plant disease pathogens, the introduction of new specialty crops, and increased farm income. Scientific publications in peer-reviewed journals or articles written for the general public reach traditional and non-traditional groups of stakeholders.

2. Brief description of the target audience

A diverse group of targeted audiences, which include under-served and under-represented stakeholders, is needed to effectively serve stakeholders. CAES does not receive extension funds but, nonetheless, serves a variety of farmers who grow vegetables, fruits, nursery stock, cattle, and flowers. CAES scientists work with The University of Connecticut extension specialists in planning grower meetings. Progress has been made to enroll CAES into the national extension service (www.extension.org) to reach stakeholders nationally. This process has not been finished because a fee, based on extension funding, is required to be a member. The broad goals of the CAES research program also include work on forestry and environmental problems. Accordingly, target audiences include landscapers, conservation officers, foresters, arborists, beekeepers, maple syrup producers, seed companies, and persons in the wood products industry. Efforts are also made to reach water company officials, horticulturalists, groundskeepers, pest control operators, pesticide manufacturers and retailers, environmental regulators, extension specialists, and municipal officials. Scientists and government officials are also important target audiences for new experimental results. This research program is mainly designed to reach the general public, which includes non-traditional stakeholder groups. Homeowners, who have interests in agriculture and forestry, have access to laboratories and scientific results as well as equality of service. Women, members of minority organizations, and children are examples of under-represented and under-served groups, important target audiences. Efforts will be made to reach Brazilian, Hispanic, Asian American, African American, and Native American populations as well as elementary and high school students.

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	19500	15000	700	200
2008	37547	136386	4930	27262

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

Patent Applications Submitted

Year	Target
Plan:	0
2008:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	20	
2008	0	19	19

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Total research papers

Year	Target	Actual
2008	40	81

Output #2

Output Measure

of site visits to solve problems

Year	Target	Actual
2008	200	488

Output #3

Output Measure

of talks and interviews given to stakeholders

Year	Target	Actual
2008	400	715

Output #4

Output Measure

of responses to stakeholders' inquiries

Year	Target	Actual
2008	1700	17451

Output #5

Output Measure

of diagnostic tests performed

Year	Target	Actual
2008	1100	5125

V(G). State Defined Outcomes

O No.	Outcome Name
1	# of homeowners gaining knowledge on insect pests and plant pathogens
2	# of homeowners learning practices to control plant and household pests
3	# of media reporters gaining knowledge on research results
4	# of students learning agricultural skills
5	# of growers adopting IPM practices

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

Natural Disasters (drought, weather extremes, etc.)

Economy

Appropriations changes

Public Policy changes

Competing Public priorities

Competing Programmatic Challenges

Other (Media influences)

Brief Explanation

The resignation of an IPM specialist in a prior reporting period adversely affected outcomes because the new knowledge could not be effectively transferred to more nursery managers. The vacant position has been filled and other scientists working on developing IPM programs continued the effort. The actual quantitative target outcome of 25 growers adopting IPM practices was partially met. There were no other external factors that impeded outcomes.

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

1. Evaluation Studies Planned

After Only (post program)

Retrospective (post program)

Before-After (before and after program)

During (during program)

Evaluation Results

Planned evaluation studies were conducted during this reporting period. "After only" evaluations verified that there were knowledge changes in reporters. "During program" evaluations showed that there were knowledge changes in 418 students, whereas "before and after" program on-site evaluations and observations indicated that there were positive outcomes in more effective control of pests on arborvitae.

Key Items of Evaluation

The Science Citation Index verified that 235 published articles on plant systems, written by 22 scientists over 30 years, were cited by scientists at other institutions (total cumulative citations = 4,880). Twelve accurately published news articles showed that knowledge changes had occurred in reporters. Likewise, verbal feedback from teachers verified knowledge changes in youth. On-site observations and evaluations verified success in improved IPM methods.