

PLANT SCIENCES

PLANT SCIENCES

V(A). Planned Program (Summary)

1. Name of the Planned Program

PLANT SCIENCES

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	22%		22%	
205	Plant Management Systems	18%		15%	
206	Basic Plant Biology	12%		15%	
211	Insects, Mites, and Other Arthropods Affecting Plants	19%		19%	
212	Pathogens and Nematodes Affecting Plants	19%		19%	
215	Biological Control of Pests Affecting Plants	10%		10%	
	Total	100%		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	8.0	0.0	36.0	0.0
Actual	7.0	0.0	15.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c 111247	1890 Extension	Hatch 31944	Evans-Allen
	0		0
1862 Matching 525697	1890 Matching	1862 Matching	1890 Matching
	0	599558	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

Effectiveness of the research program will be based on publications, external grant support and integration into extension programs

2. Brief description of the target audience

Commodity groups, state agencies, pest management advisors, pesticide applicators, youth, ag ventures program.

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	17000	30000	5000	1000
2008	15000	35000	6000	2000

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

Patent Applications Submitted

Year Target

Plan: 2

2008: 1

Patents listed

Withaferin A Analogs and Uses Thereof

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	7	35	42

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Number of individuals participating in educational programs

Year	Target	Actual
2008	17000	16500

Output #2

Output Measure

Number of research projects conducted on all aspects of Plant Sciences

Year	Target	Actual
2008	55	52

V(G). State Defined Outcomes

O No.	Outcome Name
1	Adoption of better management practices for crop production
2	Adoption of alternative crop technologies
3	Adoption of more cost effective means for controlling plant diseases and insect damage

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
------	---------------------	--------

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
---------	----------------

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

Brief Explanation

See earlier statement

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

1. Evaluation Studies Planned

After Only (post program)

Evaluation Results

IPM Assessment is a key focus of the Arizona Pest Management Center. We have developed tools to measure IPM adoption and impact, including a statewide pesticide use reporting database. Last year, we evaluated the adoption of UA Cooperative Extension cross-commodity guidelines for whitefly management (<http://cals.arizona.edu/pubs/insects/az1319.pdf>). Our spatial analysis revealed a 4-fold difference in the use of key whitefly management tools between cotton growers in cotton-intensive versus multi-crop areas of Yuma, consistent with what our guidelines recommend, though adoption levels were lower in other parts of the state (http://cals.arizona.edu/apmc/APMC_RIPM2005.html). In addition, we annually engage agricultural clientele through a series of Crop Pest Losses workshops to evaluate yield losses and economic impacts in major crops due to insects, weeds and plant pathogens (<http://cals.arizona.edu/apmc/croplosswg.html>).

Key Items of Evaluation

Using these data, we have documented a savings of over \$200 million to Arizona cotton growers since 1996, and a 20-fold reduction in pesticide use between 1995 and 2006 (http://cals.arizona.edu/apmc/docs/IPM_Delivers.pdf). See earlier statement.