RAMP Outreach, Evaluation & Impact Assessment

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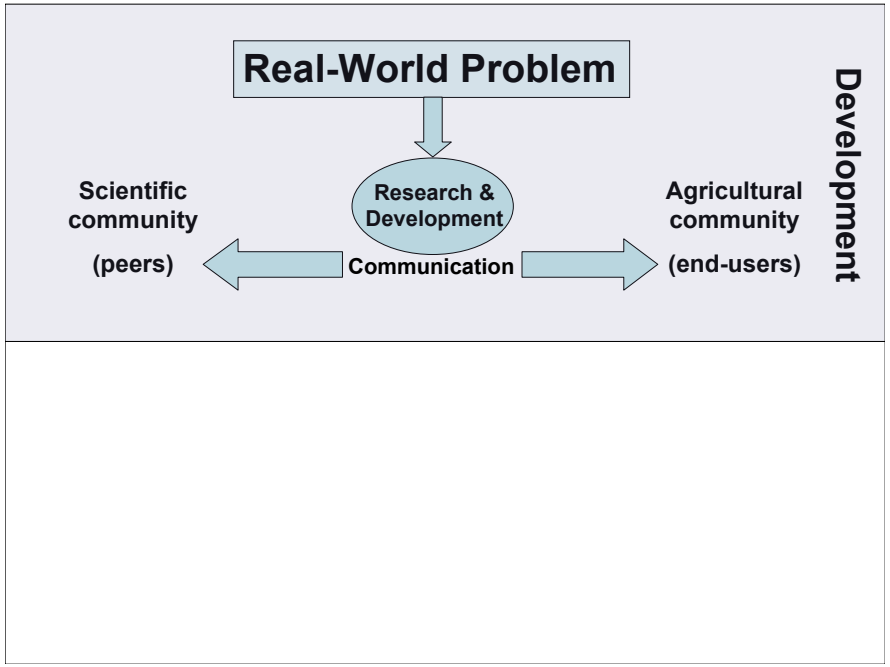
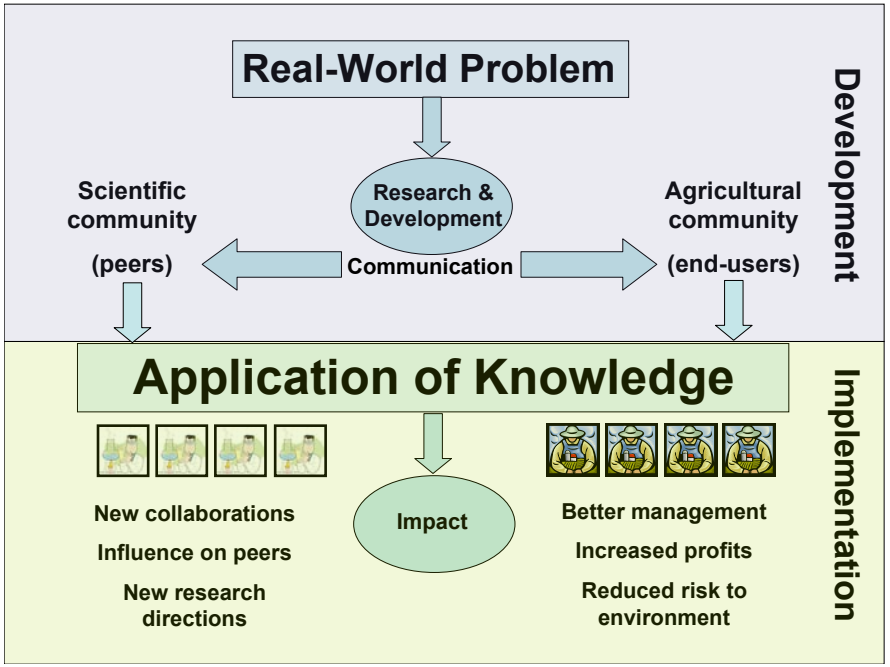
LYGUS RAMP PI MEETING - JUNE 22, 2009



Risk Avoidance & Mitigation Program

"To enhance the development and implementation of innovative IPM strategies"



My RAMP Projects

- **Section IV: Outreach**
  1. Provide a clearinghouse for project information (website)
  2. Facilitate ongoing partner communication (listserv)
- **Section IV: Evaluation**
  1. Measure outputs & delivery to end-users
  2. Measure adoption & impact of our work

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What we measure

Activities	**What we do** - Research - Outreach
Results	**What we learn** - New knowledge - New applications
Products	**How we share what we learn** - Research outputs - Outreach outputs
Outcomes & Impacts	**What we change (or influence)** - In individuals (short-term) - In communities (medium) - In the world (long-term)

Reporting Responsibilities

What	Who	How
Activities	Researcher	Reporting Matrix
Results	Researcher	Reporting Matrix
Products	Researcher	Reporting Matrix
Impacts	Eval Team Researcher	Surveys & Data

What is an “Impact Nugget”!?!

- AKA, success story
- Links your activity, product or recommendation to someone else’s action or behavior
- Tells a story of your influence
- Can be anecdotal

A good Impact Nugget

“On a college farm setting, alfalfa was completely cut in June causing massive Lygus movement into cotton. The farm managers are now firm believers in leaving some alfalfa habitat to mitigate Lygus movement and utilized this approach for the remainder of the season.”

- Pete Goodell

RAMP Tracking Matrix 2008

RAMP OUTCOME TRACKING MATRIX: Updated Nov 30, 2008.

Investigators	Project Title	Objectives	Research Activities	Education Activities & Products	Measurements	Impact "nuggets" / Success stories	Leveraged Resources
SECTION I: Field Level Experimental: Yield/Damage/Thresholds							
Ellsworth (AZ cotton) 1 data analysis project; 4 Extension presentations (200 reached); 1 invited syposium presentation (34 reached); 1 article (Western Farm Press); 1 grower demo; 1-on-1 mtgs with PCAs and growers (4); Leveraged 25k (UA-MAC PhD ass	Development of dynamic, yield : density relationships for terminating chemical control in cotton	1. Analyze 4-yrs of Lygus chemical control termination data. 2. Establish rules and/or guidelines for decision-making with respect to Lygus control termination. 3. Establish grower-demonstrations to both test, verify, and validate decision rules. 4. Conti	1. All data have been assembled into a common database and prepped for analysis. A rate series of a novel chemical control agent was used to establish varying densities of Lygus and showed excellent relationship between Lygus levels (esp. nymphs) and yiel	1. Presented invited talk at PB-ESA symposium in 4/08 on Lygus control termination & plant compensation for damage. 3a. One grower demonstration in 2007 was conducted with reduced-risk compound and timing of Lygus control termination. 3b. One grower field	Lygus thresholds, control termination, and plant compensation were presented to ca. 34 scientists; Met with 4 PCAs and 1 grower to discuss Lygus mgt. and potential demonstrations. Reached over 200 growers/PCAs in grower mtgs & field day with information o	One grower managed 1200 A of cotton late season with a reduced-risk insecticide based in part on this research and the pilot guidelines. Two PCAs reported using nymphs exclusively for timing Lygus chemical controls overturning a long-standing practice of	4-yrs of previous support from CI to help develop the experimental basis of this activity. MAC graduate student assistantship for 1 Ph.D. student doing related work showing whitefly pest resurgence in response to poor choices in Lygus chemical control (ca

Thank You!

Reporting Changes 2009

- Matrix: Report research & outreach activities, measurements and “impact nuggets”
- A new set of guidelines for reporting:
  - Research results (less restrictive)
  - Products (citation format)
  - Leveraged resources (clarity)

Outcomes & Impacts

Level	What we measure	Tool
Individuals	Changes in knowledge	LS
	Changes in skills	LS
	Changes in attitude	LS
	Changes in behavior (adoption)	LS
Communities & systems	Changes in patterns of behavior	LS, CPL, PUR, RFS
	Economic impact	CPL, PUR, RFS
	Environmental impact	CPL, PUR, RFS

LS = Lygus Survey
CPL = Crop Pest Losses Survey
PUR = Pesticide Use Reporting data
FRS = Random Field Survey

Lygus Survey

- **Eval Team: Fournier, Ellsworth, Goodell, Parajulee, Bundy, Godfrey, Kerns**
- **Developed Lygus Survey & ran it at Extension meetings 2008-09**
- **144 responses (67 AZ, 37 TX, 28 CA, 12 NM), data entry underway**
- **Goal: pre & post measures of lygus management K, S, A & resource use**

Community & System Impact

- **Pesticide Use Reporting data (CA, AZ)**
- **Random Field Survey (from Regional Ecology project: AZ, CA, TX)**
- **Crop Pest Losses & Impact Assessment Survey (AZ, eastern CA)**

Crop Pest Losses and Impact Assessment Working Group

- **Develop "real world" data (AZ, SE-CA):**
  - **crop pest losses, control costs, yields, pesticide use, economic data**
- **Face-to-face workshops & mail surveys**
- **Crops: Cotton, head lettuce, watermelon & cantaloupe**

The Questionnaire

Arizona Spring Melon Insect Losses Survey - 2005

1. Please indicate: PCA _____ other _____.

2. Reporting Area (county or counties) : _____.

	Cantaloupes, Honeydew, and others	Watermelons
3. Date submitted: (dd/mm/yy): _____.		
4. Melon Acreage to which this estimate applies: AZ_____ CA_____.		
5. Estimated yields in cartons (per acre) for this acreage.		
6. Potential yield in cartons (per acre) for this acreage. Assume ideal conditions		
7. Percent reduction in yield by: **Weather** (% reduction)		
8. Percent reduction in yield by: **Chemical injury** (% reduction)		
9. Percent reduction in yield by: **Weeds** (% reduction)		
10. Percent reduction in yield by: **Disease** (% reduction)		
11. Percent reduction in yield by: **All insects combines** (% reduction)		
12. Percent reduction in yield by **Other Factors**: List factors below. (% reduction)		
Application Costs: It is possible that acreage could have been treated using both air and ground sprayer, thus, when combined, percentages may total > 100%. These estimates are for **Insecticide Applications**. 13. Percent acres (for this estimate) treated by **air** in 2004/2005:		
14. Average number of insecticide treatments by **air**:		
15. Cost ($) per acre for a single aerial application:		
16. Percent acres (for this estimate) treated by **ground** in 2004/2005:		
17. Average number of insecticide treatments by **ground**:		

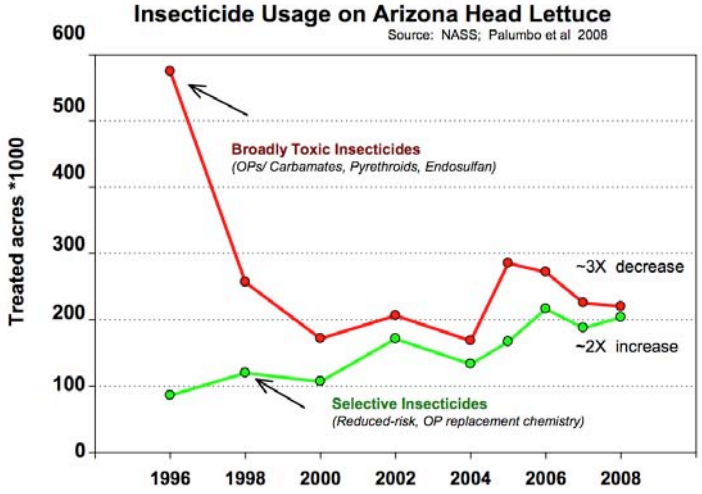
Insect Losses

Part 2. **Arizona Spring Melons Insect Losses Survey - 2006**

	Pest	A: % acres where pest was present		B: % acres treated for this pest		C: Number of Foliar insecticide sprays used to control this pest		D: Cost $ of a single spray application per / acre (include application cost)		E: % reduction in yield due to this pest	
		Cantaloupe	Watermelon	Cantaloupe	Watermelon	Cantaloupe	Watermelon	Cantaloupe	Watermelon	Cantaloupe	Watermelon
23	**Seedling Pests** -ground beetles, earwigs, crickets										
24	**Seedcorn Maggot**										
25	**Flea beetles**										
26	**Leafminers**										
27	**Beet armyworm**										
28	**Cabbage looper**	**99.3 %**	**100%**	**80.2%**	**100%**	**1**	**2**	**$ 29.50**	**$ 31.50**	**2%**	**1%**
29	**Whiteflys**										
30	**Aphids**										
31	**Thrips**										
32	**Spider Mites**										
33	**Trash bugs** (Lygus, False chinch bugs, etc.)										
34	**Darkling Beetles**										
35	**Other insects** (list below)										

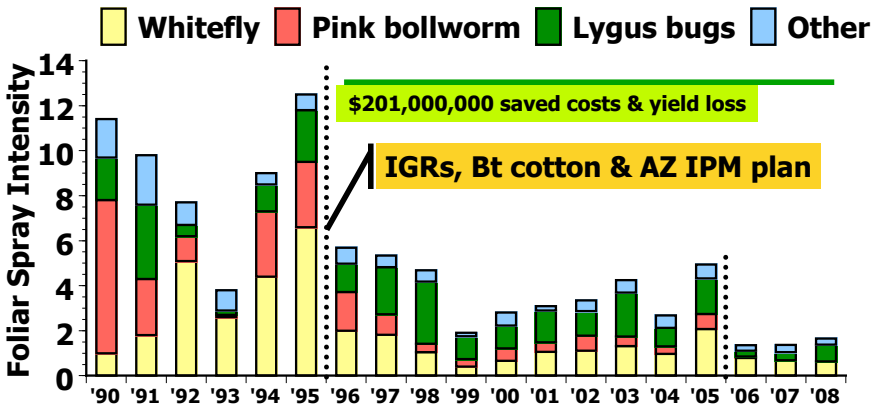
Insecticide Survey

Never	Rarely (not every year)	Often (every year)	"Go to" Product	Primary Target Pest(s)	○Industry ⊗PCA ○Grower County: Pinal Acreage: 2500	
					Acres (%) treated with this product	Avg. no. of times treated with product
○	⊗	○	○	cutworms	2%	1



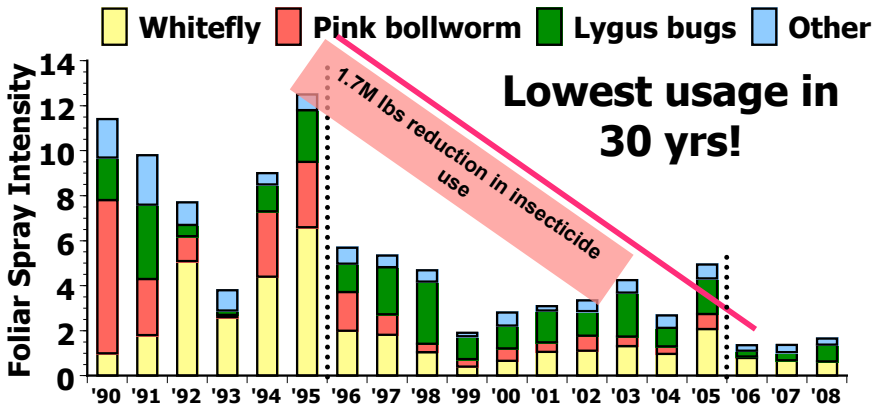
Palumbo 2008

Cotton IPM Saves Millions $



Ellsworth et al. 2008

Health & Environment



Ellsworth et al. 2008

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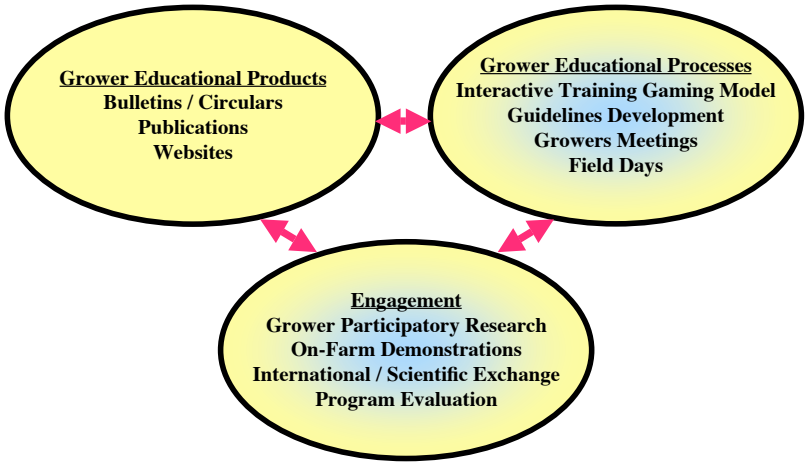
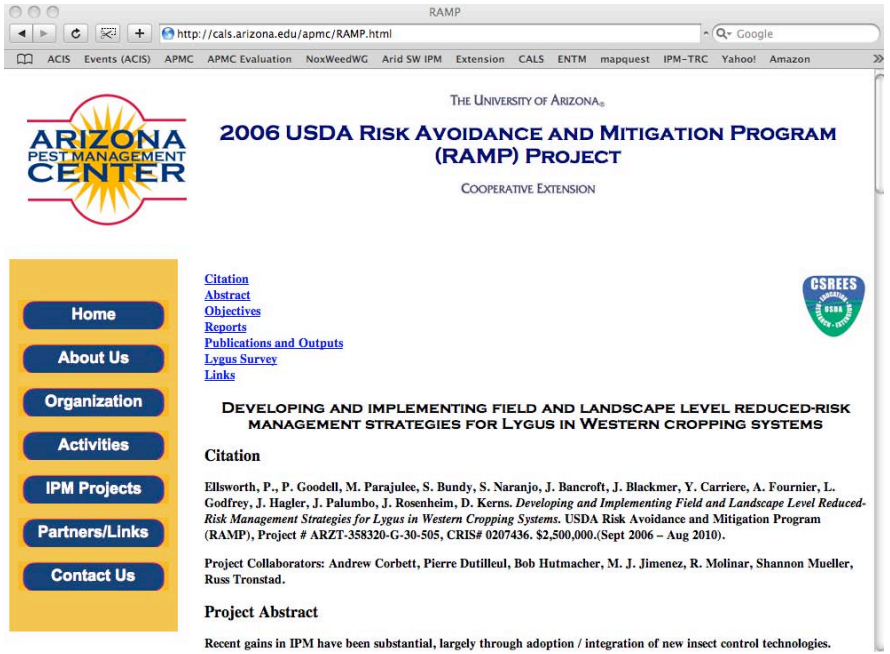
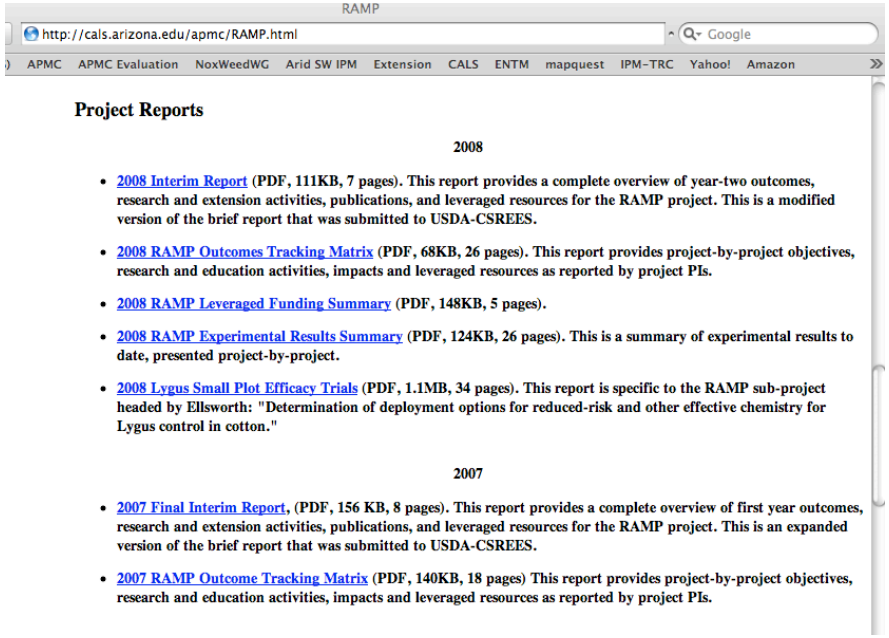


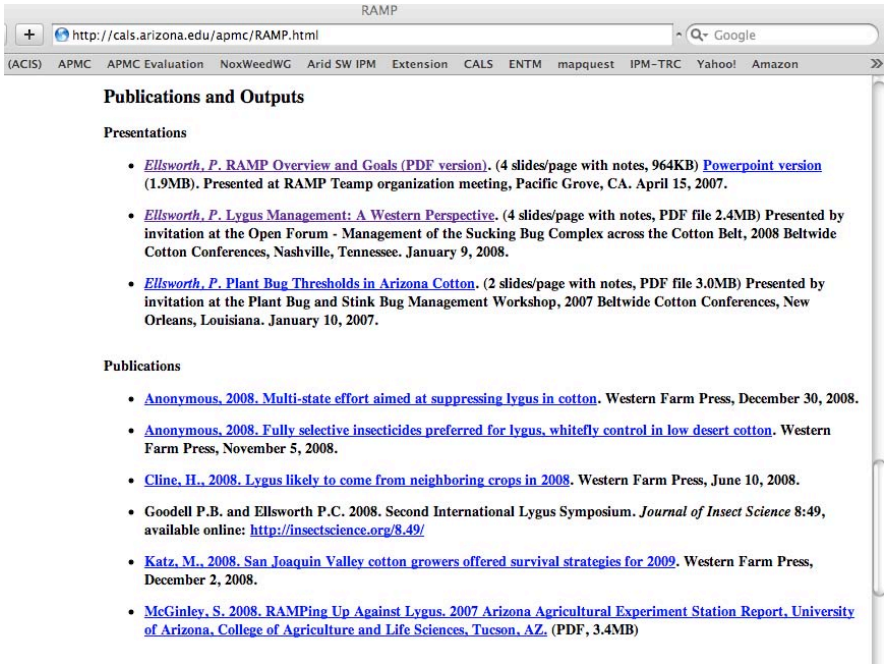
Outreach

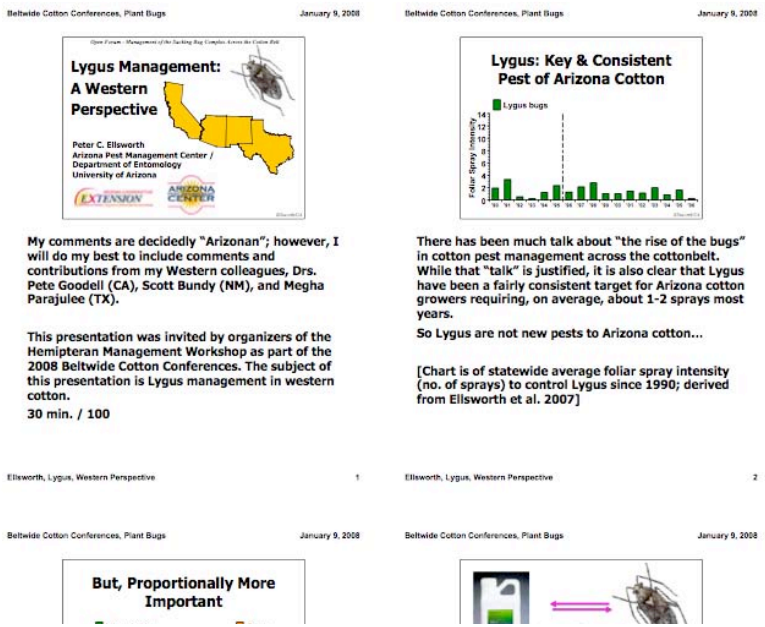
RAMP Website

http://cals.arizona.edu/apmc/RAMP.html









RAMP Listserv

- lygusramp@CALS.arizona.edu
- **Share research results, new publications, meeting information, etc.**
- **Pose questions to the RAMP team**
- **Keep the dialog alive!**

Please Remember:

- I need your help to document activities, results, products and impacts
- Products and impacts are different, but equally important, in the scientific & agricultural communities
- Our success will be measured by what we discover, ***how much we influence change in Lygus management in the West,*** and how well we communicate

Questions?