"The EIPM program is not formula anymore, but reporting concerns are the same across the system. **If you want to be funded in the future, report well on your present funding**, especially if you are applying back to the same program. Reporting is a way to assess the value and accountability of the work a grantee completes."

-- Marty Draper, National IPM Program Leader

"Often when I read your CRIS reports I get to the 'Impacts' section and I read more about your activities and the programs you may have conducted, complete with how many attended the meeting. I would challenge you to rethink what an impact is. Think about outcomes. **Think about the, "So what?" question**."

-- Marty Draper, National IPM Program Leader

Writing Meaningful Outcomes/Impact Statements

- What the NIFA National Program Leaders say
- How to better distinguish between outputs and outcomes
- Making sure your outcomes tell a story of success

National Program Leaders need to see outcomes that…

- …state up-front the issue that was addressed by either (or both) the research and extension activities.
  - …show progression from the issue to what was done in relation to that issue and what the results were.
- …are the result of measurable indicators.
- …mention how they "know" whether the indicators produced measurable results
  - i.e. what evaluation methodologies were used to generate data for the measures?
- …distinguish correctly between outputs and "accomplishments" (in this case an accomplishment IS an outcome result).

Distinguishing Between Outputs & Outcomes

- Think of an output as a ***measurable "product"*** that results from a certain activity, whereas an outcome is ***change*** in something.

- An output is usually tangible – you can see the "product."
  - Examples: websites, publications, patents, trainees

- <u>Remember, producing outputs *leads* to outcomes.</u>
  - You can train people to be able to educate children on healthy eating, but just having trained them (the output) doesn't necessarily result in children practicing healthy eating (the outcome).

Examples of Outputs

Notice how each output in the list on the right is indicated by "number of" instead of a measurable change in something.

Think about how you can "see" the products of those output statements (tangible numbers of things).

Name of the Planned Program.
Youth Development

V.(H) State Defined Outputs ❓

Number of volunteers completing one training per year.	Edit	Delete
Number of children and youth who participate in 4-H Afterschool.	Edit	Delete
Number of local 4-H partnerships initiated or strengthened.	Edit	Delete
Number of new clubs developed using innovative and emerging 4-H club models.	Edit	Delete
Number of 4-H livestock exhibitors certified in Food Safety and Quality Assurance (FSQA).	Edit	Delete
Number of 4-H'ers enrolled in Foods, Nutrition, Physical Health, and Fitness project areas.	Edit	Delete
Number of 4-H?ers enrolled in Science, Engineering, and Technology (SET) project areas.	Edit	Delete
Number of 4-H?ers enrolled in Citizenship, Communication, and Leadership project areas.	Edit	Delete
Number of pre-service teachers and educators trained in Connecting Learning & Living Curricula on connecting youth with MyPyramid concepts and understanding the origins of food.	Edit	Delete
Number of youth reached by educators trained in Connecting Learning & Living Curricula (agriculture, environmental, food, and nutrition emphasis).	Edit	Delete

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What makes an outcome an outcome?

- Outcomes are "stories" that demonstrate a change in something.

- NIFA needs you to tell your story in 6-10 lines.

- This is done by making sure your "story" hits three main points:

  1. Issues

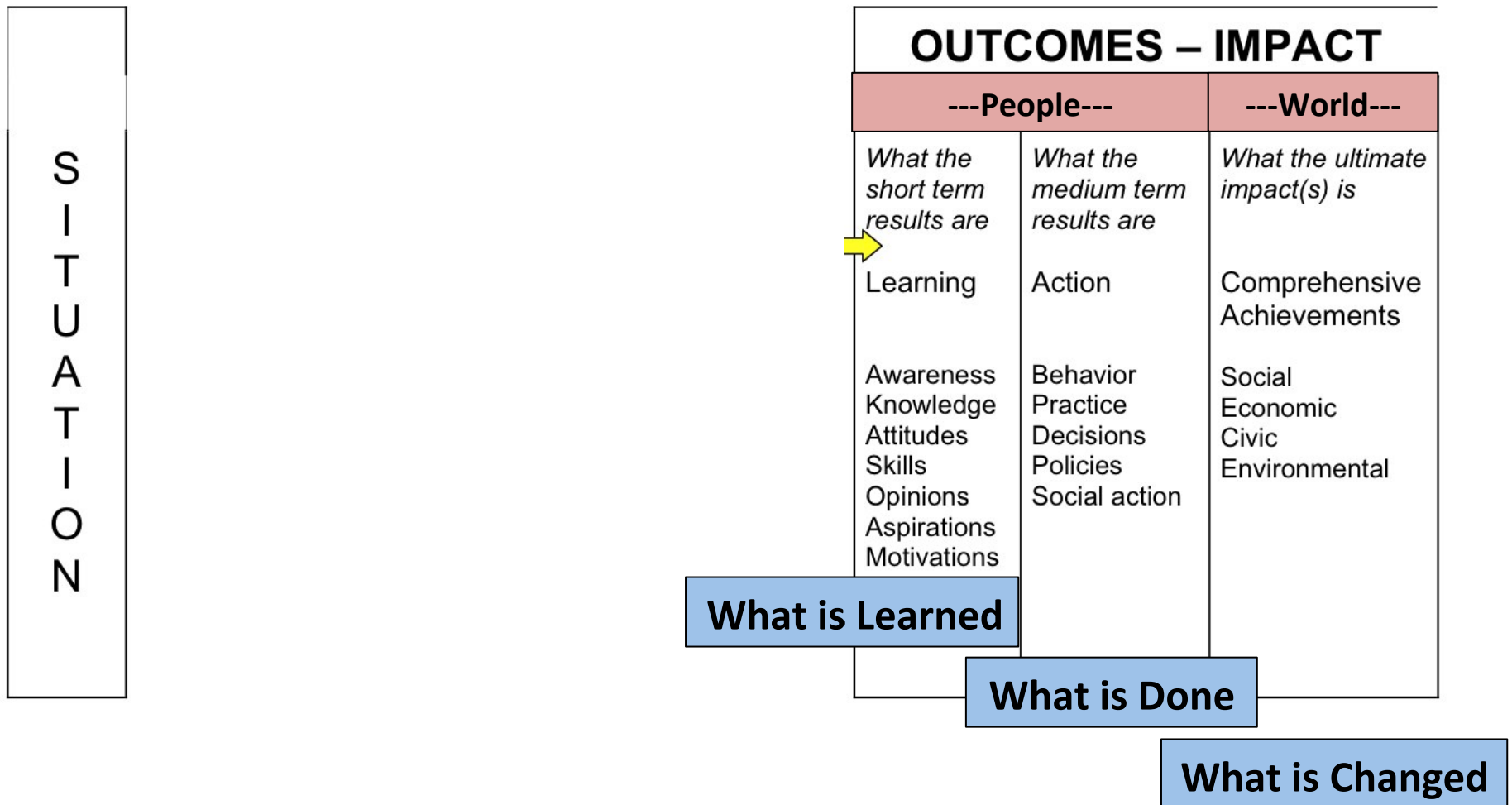 2. What was/has been done

  3. Results

How to Define/Demonstrate Change

- There are three types of "change" that NIFA uses to classify outcomes:

  - Change in Knowledge: Occurs when a participant (scientist, trainee, citizen, etc.) learns or becomes aware.

  - Change in Action: Occurs when there is a change in behavior or the participants act upon what they have learned (adoption of techniques and methods or a change in practice).

  - Change in Condition: Occurs when a societal condition is changed due to a participant's action.
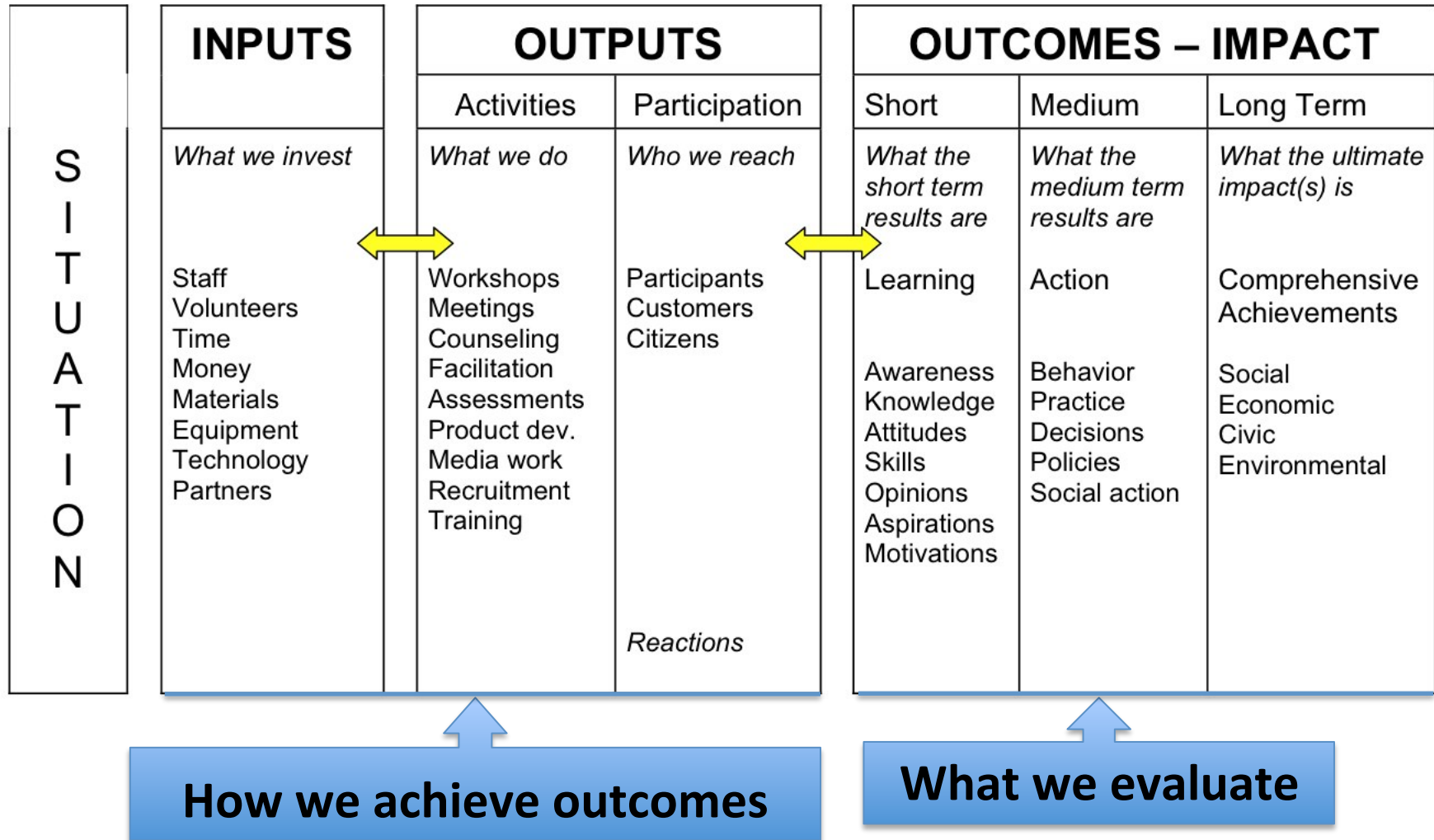
LOGIC MODEL for
PROGRAM DEVELOPMENT and ASSESSMENT

S I T U A T I O N

OUTCOMES – IMPACT

---People---		---World---
What the short term results are	*What the medium term results are*	*What the ultimate impact(s) is*
Learning	Action	Comprehensive Achievements
Awareness	Behavior	Social
Knowledge	Practice	Economic
Attitudes	Decisions	Civic
Skills	Policies	Environmental
Opinions	Social action	
Aspirations		
Motivations		

What is Learned

What is Done

What is Changed

LOGIC MODEL for PROGRAM DEVELOPMENT and ASSESSMENT

SITUATION	INPUTS	OUTPUTS		OUTCOMES – IMPACT		
		Activities	Participation	Short	Medium	Long Term
	What we invest	*What we do*	*Who we reach*	*What the short term results are*	*What the medium term results are*	*What the ultimate impact(s) is*
	Staff Volunteers Time Money Materials Equipment Technology Partners	Workshops Meetings Counseling Facilitation Assessments Product dev. Media work Recruitment Training	Participants Customers Citizens	Learning Awareness Knowledge Attitudes Skills Opinions Aspirations Motivations	Action Behavior Practice Decisions Policies Social action	Comprehensive Achievements Social Economic Civic Environmental
			Reactions			

How we achieve outcomes

What we evaluate

Example

The screenshot below shows a particular software program used by NIFA to collect data on each of the three areas that compose an good outcome story: issue, what has been done, and results. Regardless of whether software is used or you are writing from scratch on a word document, these three areas should always be addressed, with the "change" being described in the "results" section.

Issue (Who cares and Why): (6 to 8 Lines Max)

Iowa ranks 15th highest in obesity/overweight prevalence and is in the bottom 10% of fruit and vegetable consumption in the United States. Youth ages 8 to 18 sit in front of a screen for an average of 7 hours and 23 minutes each day and prefer being indoors rather than going outdoors. Youth and adults are disconnected with the natural

What has been done: (6 to 8 Lines Max)

? 102 teachers and 53 youth educators (155 total) who engaged in 6 hours of CLL nutrition and food origin lessons, and who represent 7,739 youth, completed the annual online survey.
? MyPyramid is used as a starting point within CLL lessons to help educators identify food groups, understand the importance of eating a

Results: (10 to 12 Lines Max)

? Educators reported that 60% to 100% of their students (79% average) showed an increase in knowledge about the food they eat and the importance of making healthier food choices.

Documenting Outcomes: 3 steps

1. **Evaluation Objective:**

   – **What change do you want to document?**

2. **Measurement Indicator:**

   – **What data will you use to document change? What will you measure?**

3. **Methodology:**

   – **How will you collect the data? How will you analyze the data?**

IPM Example (WRIPM grant)

1. **Objective 1: To measure changes in pest manager knowledge of natural enemies (I.D.) & their role in whitefly management.**

2. **Measurement Indicator: Ability to identify (a) natural enemies and (b) their role in whitefly management. (% correct)**

3. **Method: Audience response survey**

Example

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Telling your outcome story (cont.)

- Make sure your "story" flows by connecting these three "areas."

- In the "what has been done section," you should make sure to mention what methodologies were used to collect/measure data.

- The results of the measured data that show a change in knowledge, action, or condition should be part of the "results" section.

Example: Measurable Indicators for Collecting Data to Show Change

Name of the Planned Program.

Youth Development

V.(I) State Defined Outcomes

Percentage of pre-service teachers and educators who participate in CLL training will self-report a 1 to 3-point increase in confidence/knowledge in teaching MyPyramid concepts and the origins of food.	Edit
As reported by educators, percentage of youth participating in CLL lessons who increased their knowledge of the MyPyramid and making healthy food choices.	Edit
As reported by educators, percentage of youth participating in CLL lessons who made healthy food choices; tried new foods; and made healthier food choices during snacks, lunch, and class parties.	Edit
As reported by educators, percentage of youth participating in CLL lessons who increased their knowledge regarding growing food from plants.	Edit
As reported by educators, percentage of youth gardeners participating in CLL lessons who improve their vegetable consumption.	Edit
Percentage of 4-H?ers in grades 6 ? 12 taking the FSQA certification test who self-report improved techniques and practices in livestock record keeping, medications, food product safety, and ethics.	Edit

The four outcome measures/indicators in the blue box are all associated with the same activity; the results of this activity (i.e. the data from the indicators) should be combined in a few sentences to show the public value of the funding of that activity. This is done by taking the four percentages measured in the indicators and stating them as indicators for which data were collected in the "what has been done" section of the outcome story. The "results" section should then make a broad statement – 1-2 sentences – that combines the four data points (i.e. "Our data show that the youth who participated in CLL Lessons gained considerable increases in their knowledge of healthy food choices. The data also show that this knowledge lead to those youth reporting major increases in making healthy food choices and participating in other activities that contibute to healthy lifestyles.").

"Results" should show public value

What do we mean by public value?

- ***Ask yourself:*** Why is the program important to constituents?

- Example: One outcome measure in this year's AR was the "Percentage of youth increasing knowledge and skills in youth entrepreneurship."

  – In the qualitative description, the state described one teen venture earning $138.00 selling a product to restaurants.

  – This is great, but may not be significant.

- To illustrate significance, here is a revised example:

  – As a result of the Youth Entrepreneurship Program and teens becoming contributing young adults to society, X teens in the Superior Court Juvenile Program were prevented from incarceration, which saved X dollars in annual cost in the juvenile system.

  – ***This demonstrates public value and highlights for decision makers why funding this initiative is important.***

When writing outcomes or reporting "impact statements" for any project or program, ask yourself:

- Have I listed at least one or two quantitative outcome measures and are they actually measurable? If they are, do we have the evaluation tools in place to perform the measurement?

- Do the qualitative descriptions in the three areas (issues, done, results) demonstrate impact/public value?
  – Do they describe a clear progression of what the issue was, what was done, and what the results were?
  – **Is there at least ONE sentence that a reader can hone in on and say "THAT is why this funding is important" (in the "results" box)?**

- Overall, does the "story" itself effectively combine quantitative measures with qualitative description?
  – An impact statement should not just be a listing of data, survey results, outputs, etc.

When writing a qualitative description:

- Be direct and to the point - NIFA encourages brevity!

- Don't make language overly formal or scientific to the point of being obscure.

  - Remember that we use your outcome statements for many purposes and that they reach many types of audiences, many of whom do NOT have scientific backgrounds!

- *Write your outcome story as if it will need to grab people's attention on the front page of a newspaper; make it clear that THIS story has an IMPACT on people/the community/the state.*
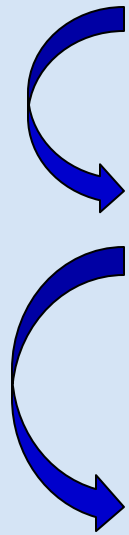
How to form the best qualitative description:

- Make sure you are describing a clear progression between the three parts of an outcome statement/paragraph:

  1. What was/is the issue problem in your state/region/community, etc.?

     Or, if there is not a problem per se, what is the overall topic of the research/extension activities, and why does it matter to the given community?

  2. What was done to address that issue or in relation to the topic of #1?

  3. What changes in knowledge, action(s), or condition(s) occurred as a result of #2 and how does this help the larger community?

- Remember to include specific numbers that capture the positive changes.

  – We love to see figures for percentage increases, dollars saved, dollars earned, value increases, etc.

Good progression makes for a stronger story/impact.

1. General Topic

2. Specific Action Taken to address the general topic

3. Results of the action are reported in specific quantitative terms and at least one specific qualitative sentence ("This research will have lasting effects on…") in order to show the public value.

Example of Lack of Progression/Impact

In one qualitative statement, it was stated:

1. Helping youth become involved in their communities increases perception of self-worth and leads to healthier choices.

2. High school students were taught a class on invasive species and then volunteered to remove invasive species from public parklands.

3. 32 acres of parkland were cleared of invasive species.

A NIFA National Program Leader Commented:

- Although it is commendable that invasive species were removed from 32 acres of parkland, what issue does that address, and what benefit does that have for the parklands and environment?

- There is no connection between the issue, activity, and results. Will the people trained continue to use the information to change something in particular? Is invasive species a problem (economic in nature) in the current area?

- If the *impact* of this work on the environment could be reported, this would be a solid outcome statement."

Example of Good Progression/Impact

General

Issue:

During the past five years, **Colorado wheat farmers have planted an average of 20% of their fields to newly released and improved wheat varieties.** This is a faster adoption rate of improved wheat varieties than for growers from comparable states.

Specific Related Action

What has been done:

The Colorado State University (CSU) **Extension Wheat Improvement Work Team provided 18% of the total investment** in developing and promoting CSU wheat varieties.

Report of what the Action did – here, increase in income and ROI

Results:

Plantings of improved **wheat varieties increased Colorado farmers' farm gate income by $12,840,000** in 2012. Extension's share (18%) of this impact for the Colorado wheat industry is $2,311,000, or about **$13.70 returned for each $1.00 invested.**

Summary on Writing Better Outcomes

- Make sure your outcomes are results that are measured by data that show change(s) in knowledge, action, and/or condition.

    – Remember that outputs are "products" but not necessarily changes.

- Combine multiple measures to create one strong qualitative statement.

- Qualitative statements should be concise and show progression from the issue, to what was done, to what the results were.

- At least ONE SENTENCE in a good qualitative statement should highlight the **public value** of the activity supported by the funding.

Cotton IPM: A Quiet Revolution Reduces Costs, Losses and Risks for Arizona's Cotton Growers
University of Arizona College of Agriculture and Life Sciences 2011 Impact Report

Issue
During the mid-90s, insecticide applications in cotton typically accounted for about half of all insecticide use in the United States. In 1995, nearly 100 percent of Arizona's cotton acreage was sprayed multiple times for pink bollworm, Lygus bug, and silverleaf whitefly. New technologies have enabled cotton growers to reduce their spray applications significantly while achieving among highest cotton yields worldwide. Behind only California and Australia, Arizona now produces the highest-yielding cotton in the world, nearly 1,500 pounds of fiber per acre, far exceeding the U.S. national average of about 800 pounds per acre. These technologies also help growers implement more ecologically-based, sustainable IPM programs and become less dependent on broadly toxic insecticides.

What has been done
An integrated pest management program (IPM) established in Arizona in 1996, refined in 2006 and continued through today uses insect growth regulators (IGRs—effective against whiteflies), transgenic cotton (with Bt—*Bacillus thuringiensis*—effective against pink bollworms), and a reduced-risk feeding inhibitor (effective against Lygus bugs). Safe for humans, these tools kill only their target pests, allowing natural processes to play a larger role in the management of all other pest insects. Growers have been taught to deploy fully selective materials first and whenever possible. The UA College of Agriculture and Life Sciences initiated the program in collaboration with growers, USDA, Arizona Department of Agriculture, Arizona Cotton Growers' Association, Cotton Incorporated, Arizona Cotton Research & Protection Council, industry and others.

Impact
The fully implemented, collaborative cotton IPM program has registered significant gains since its inception in 1996:

- Statewide averages for cotton insecticide use patterns in Arizona from 1979 through 2010 show that insecticide use on cotton for all insects combined— including whiteflies, pink bollworm, Lygus bug and others reached a 32-year low over the last 5 years, while also reducing costs to all-time lows. The estimated cumulative savings in control costs and yield (from reduced losses to insects) from 1996 through 2010 was more than $223 million. Source: Cotton Pest Losses (CPL).

Cotton Impacts: The Issue

- **During the mid-90s, insecticide applications in cotton typically accounted for about half of all insecticide use in the United States.**

Cotton Impacts:
What was done

- **Research on new technologies & integration into IPM programs**

- **Outreach to train pest managers**

- **Surveys on pest problems, management practices and costs**
  - **Annual statewide pesticide use**

Cotton Impacts: Results

- Total insecticide sprays reduced by 85%

- Equivalent of applying less than a can of soda on an area the size of a football field

- The percentage of cotton acres never sprayed for insects in 2010 was 29.3%

How do we get there from here?