

Challenges to IPM in the Farm Landscape

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Integrated Pest Management For Cotton

“INTEGRATE”

**Nearly Every Production Decision is
Capable of Influencing Another
Decision Made Later in the Season
.....Yesterday vs Today (Costs and
Available Tools)**

Integrated Pest Management For Cotton

**Making Profitable Pest Management
Decisions Depend on an Individual
Producer's Management Style..... And
the Ag Professional Making a
Recommendation**

Integrated Pest Management For Cotton

- **The Cotton Industry –Troubled Times**
 - ▶ **Crop Input Costs vs Crop Value**
 - ▶ **Evolving Pest Problems
(Emerging Issues and Resistance)**
 - ▶ **Limited Tools**
 - ▶ **Regulatory Issues**
 - ▶ **Are You The Real Decision Maker?**

Integrated Pest Management For Cotton

- The Cotton Industry – Troubled Times
- Evolving Production Systems



Pre-Plant Vegetation Management Strategies



Evolution of Commercial Bt Corn & Cotton

1996

Bollgard
Single gene
Cry1Ac
(endotoxin)



1998

YieldGard
Single gene
Cry1Ab
(endotoxin)



2003

Herculex
Single gene
Cry1F
(endotoxin)



2003

Bollgard II
Stack genes
Cry1Ac + Cry2Ab
(endotoxins)



2005

WideStrike
Stack genes
Cry1Ac + Cry1F
(endotoxins)



2009

YieldGard VT Pro
Stack genes
Cry1A.105 + Cry2Ab
(endotoxins)



2010

SmartStax
Stack genes
Cry1A.105 + Cry2Ab + Cry1F
(endotoxins)



2011

Viptera
(AgriSure 3111)
Stack genes
Novel Protein
Vip3A + Cry1Ab
(exotoxin / endotoxins)



2012

WideStrike Advanced
Stack genes
Novel Protein
Vip3A + Cry1Ac + Cry1F
(exotoxin / endotoxins)



2013

Bollgard III
Stack genes
Novel Protein
Vip3A + Cry1Ac + Cry2Ab
(exotoxin / endotoxins)



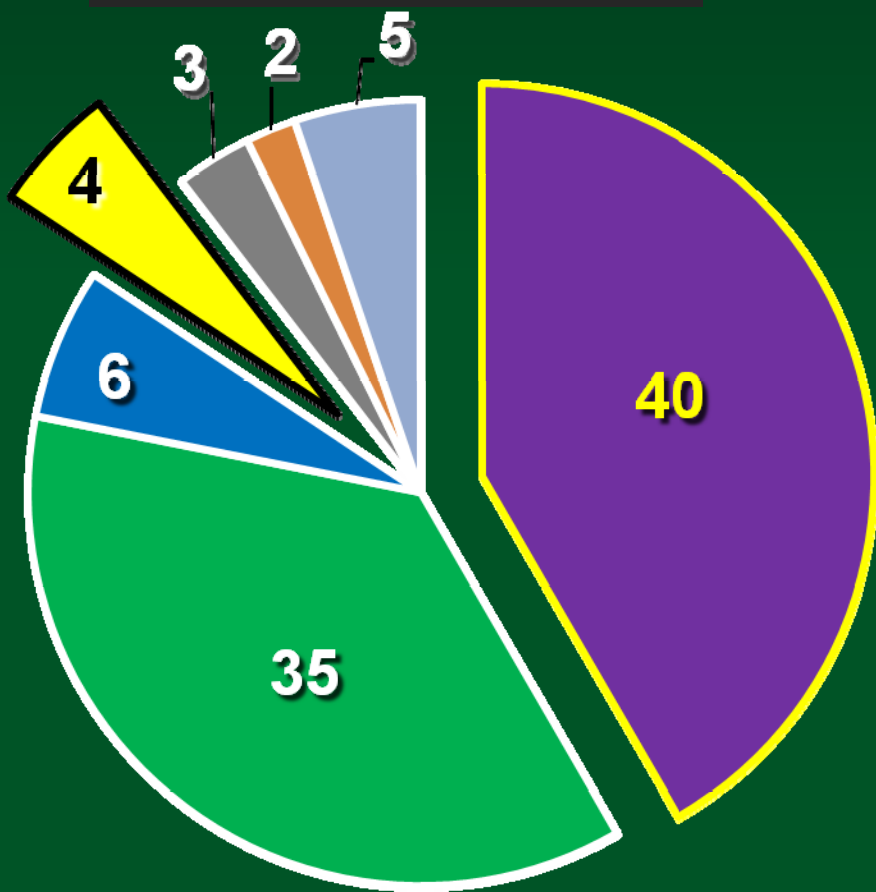
Integrated Pest Management For Cotton

- The Cotton Industry – Troubled Times
- Evolving Production Systems
- **Crop Rotations and the Farmscape**

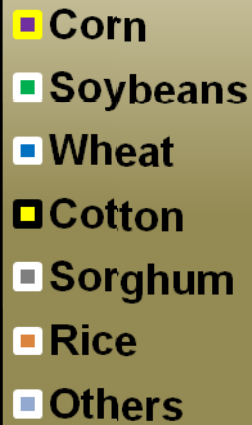
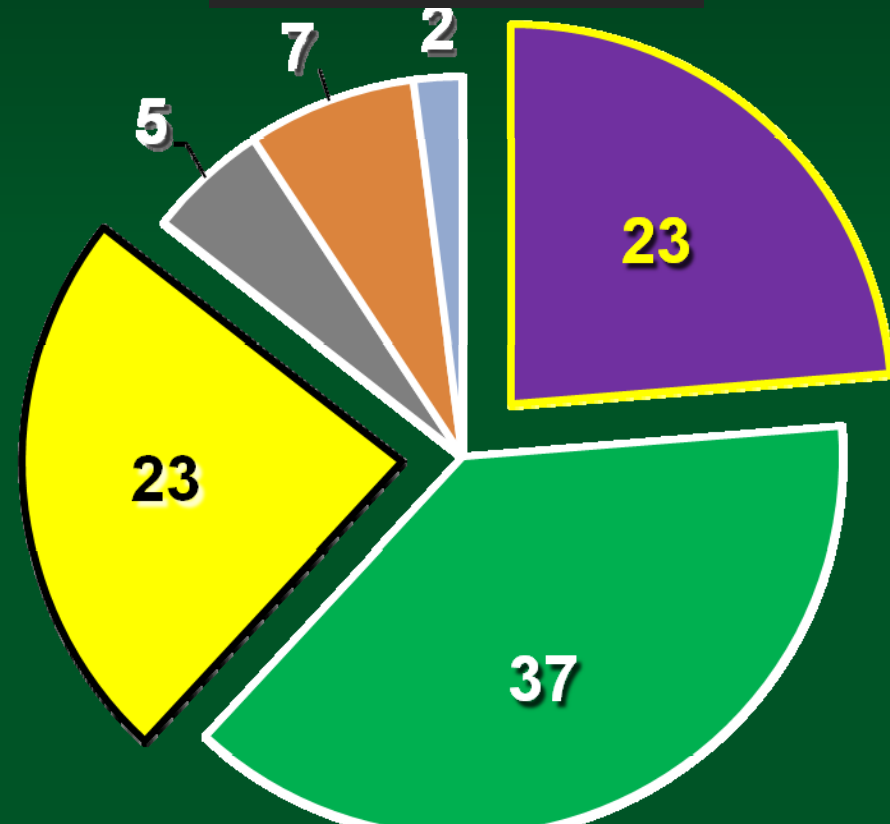
Annual Decisions – Profit Potential – Input Costs

Crop Acreage – 2010

U.S. Planted Acres (%)



Southern U.S. Planted Acres (%)



USDA-NASS 2010

AL, AR, FL, GA, LA, MS, MO, OK,
NC, SC, TN, TX



Field Borders and Source Fields

Mid-South Farmscape Components

Field Corn



Soybean



CRP/WRP



Cotton



Importance of Field Border Effects



Post-Harvest Fall Vegetation Issues



Integrated Pest Management For Cotton

- The Cotton Industry – Troubled times
- Evolving Production Systems Fast
- Crop Rotations and the Farmscape
- **Best Management Practices (BMP's)**
 - ▶ Protection of the Environment
 - ▶ Soil Productivity
 - ▶ Sustainable Cropping Systems
 - ▶ Requirements in Some Federal Programs

Integrated Pest Management For Cotton

- The Cotton Industry – Troubled times
- Evolving Production Systems Fast
- Crop Rotations and the Farmscape
- Best Management Practices (BMP's)
- **Weed and Arthropod Insect Management**
 - ▶ “Miss a Weed and Save an Insect”
 - ▶ Can't plant/spray out of these problems

Weed Resistance and Herbicide Use Strategies





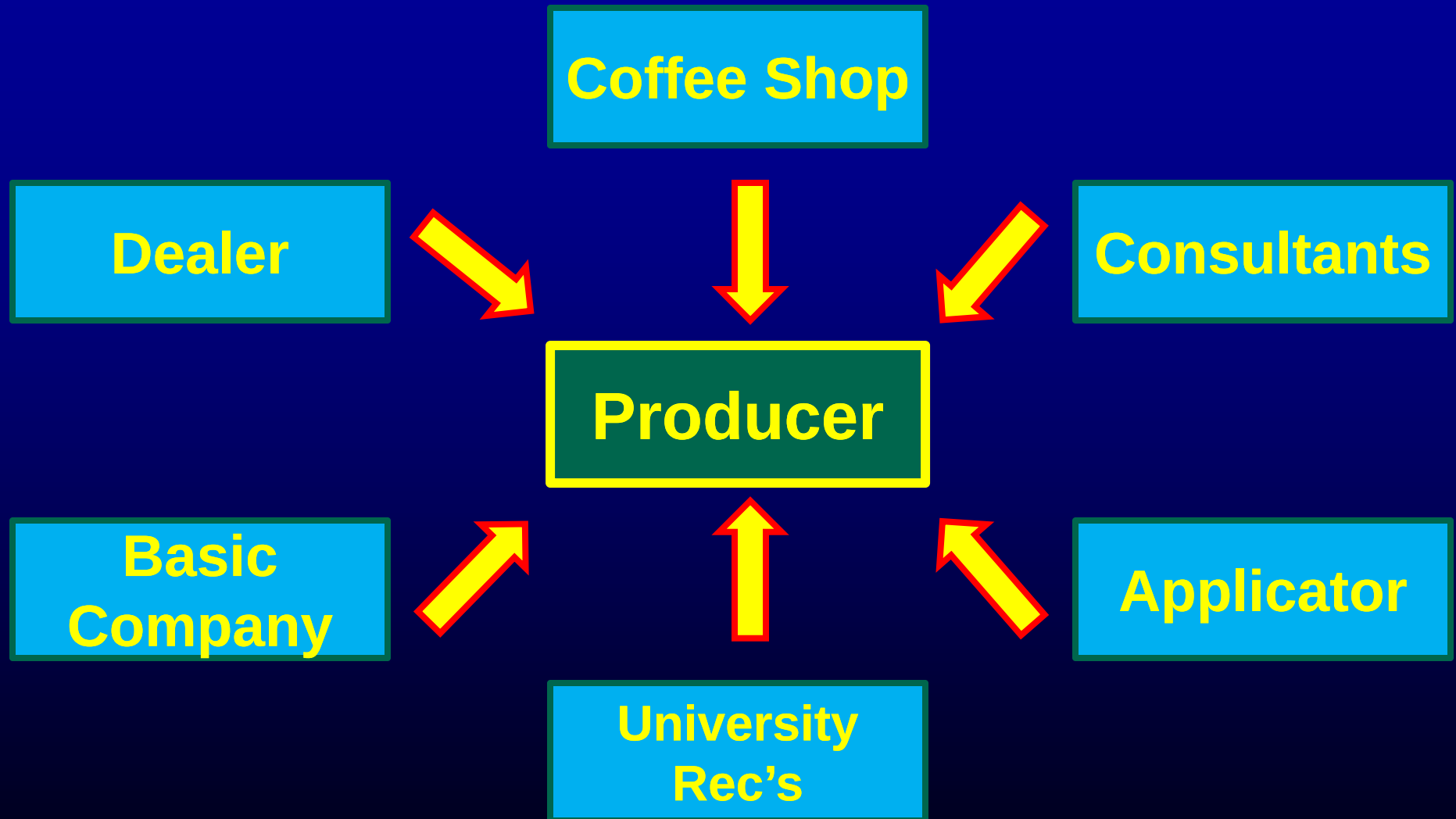
Costs of “Control”

**Application Frequency
Evolution of Actual Use Rates
Product Costs (New vs Standard)**

Integrated Pest Management For Cotton

- The Cotton Industry – Troubled times
- Evolving Production Systems Fast
- Crop Rotations and the Farmscape
- Best Management Practices (BMP's)
- Weed and Arthropod Management
- Who is making the decisions?
 - ▶ Basic Companies, Dealers, Applicators, etc.
 - ▶ Producer (the one who pays)

Centers of Influence



University Recommendations Are Guidelines !!

**FINAL DECISIONS ON THE
SPECIFIC INSECTICIDE
TREATMENT SHOULD BE A
JOINT DECISION BETWEEN THE
AG CONSULTANT AND THE
PRODUCER !**





**** It is rare that Agricultural Consultants can recommend products to control a single pest.**

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 - Weeds and Arthropod Management
 - Who is Making the Decisions?
-
- Are You Getting What You Want and Pay For?
 - ▶ Seed, Traits, ST's, Sprays

Bt Traits and Herbicide Resistance



The Seed Treatment Revolution



DP 488 BG/RR

DLM/GAU

LOT #

466-E-4571-H62A

TREATMENT CODE H6

0084

ORIGIN AZ

Baytan 30 / Protégé FL / Allegiance LS / Argent 30 / Kodiak FL / Gaucho / Lorsban 30 FL / Apron XL / Maxim / Systhane 40WP

TEST DATE 04/06 U.S. PATENT NUMBER 6927325

04-01-06

U.S. PROTECTED VARIETY - PVPA 1994

APPROX SEED PER BAG 250,000

APPROX SEED PER LB

5289

NET WT 47.41 RS 21.5 KG

CROP KIND.....COTTON
PURE SEED.....99.00%
INERT.....1.00%

OTHER CROP SEED.....0.00%
WEED SEED.....0.00%
NOXIOUS WEED SEED.....0.00%
DAFL.....

GERMINATION.....80%
HARD SEEDS.....0.00%
GERM. & PURE SEED.....80%
DAFL.....

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are
obliga
the
steward

All Products Are Not Created Equal !!

Table 1. A list of common and trade names for selected basic and generic insecticides used in LA row crops¹

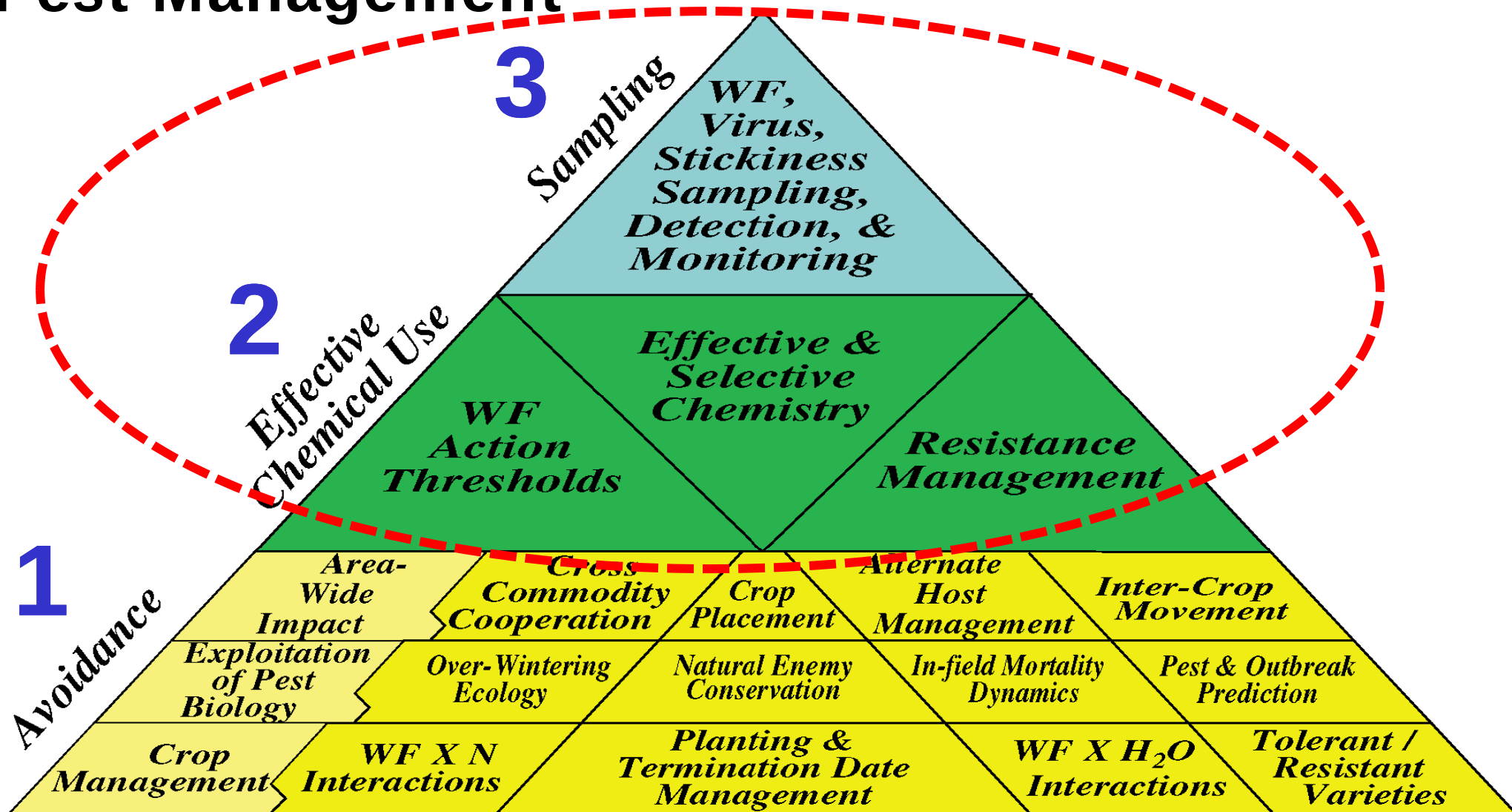
Common Name	Trade name	Formulation	# or % AI	Manufacturer
Karate				
lambda-cyhalothrin	Grizzly Z	CS	1.0 #	Agrilliance
lambda-cyhalothrin	Helena Lambda	CS	2.08 #	Helena
lambda-cyhalothrin	Kaiso 24	WG	24%	Nufarm
lambda-cyhalothrin	Karate-Z	CS	2.08 #	Syngenta
lambda-cyhalothrin	Lambda-Cy EC	EC	1.0 #	UPI
lambda-cyhalothrin	Lambdastar 1CS	EC	1.0 #	LG Life Sciences
lambda-cyhalothrin	Lambda-T	CS	1.0 #	Helena
lambda-cyhalothrin	Mystic Z	CS	2.08 #	Agrilliance
lambda-cyhalothrin	Province	CS	1.0 #	Tenkoz
lambda-cyhalothrin	Silencer	EC	1.0 #	MANA
lambda-cyhalothrin	Taiga Z	CS	1.0 #	Agrilliance
lambda-cyhalothrin	Warrior II	CS	2.08 #	Syngenta
lambda-cyhalothrin	Warrior-Z	CS	1.0 #	Syngenta

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- The Cotton Industry – Troubled times
- Evolving Production Systems Fast
- Crop Rotations and the Farmscape
- Best Management Practices (BMP's)
- Weeds and Arthropod Management
- Who is Making the Decisions
- Are You Getting What You Want and Pay For
- **IPM Should Not be a Covert Activity!**
 - ▶ Cotton Industry - Good Stewards
 - ▶ Nobody Knows – Publications and People

Successful and Sustainable Pest Management

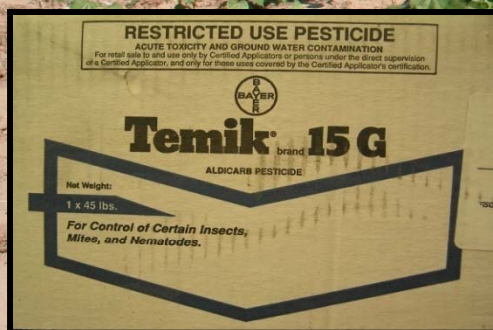
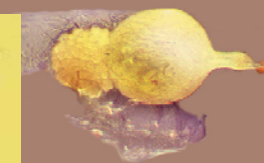
Regardless of Crop
...depends on integration



Integrated Pest Management For Cotton

- **What To Do – Easier Said Than Done!**
 - ▶ **Make an IPM Plan and Stick to It**
 - ▶ **Recognize “Weed to Bug” Problems**
 - ▶ **Use All Available Information**
 - ▶ **If It Does Not Fit, Do Not Buy It**
 - ▶ **Take Action Before Someone Else Does**

“INTEGRATE”



- Equipment / Handling
- Application Timing
- Application Patterns
- Soil Moisture

Louisiana Cotton Producers Association



COTTON INCORPORATED



Building Markets For Cotton And Cotton Products