

# Adapting IPM Strategies to the Evolving Needs in Biotech Cotton and Field Corn



**B. R. Leonard**

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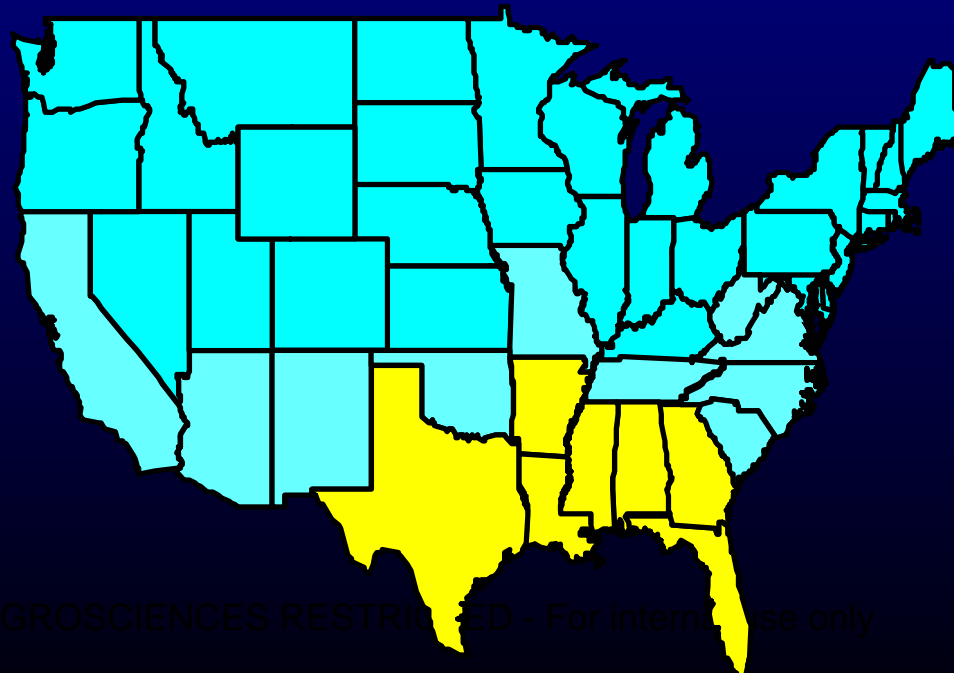


# Technology Enables IPM and Delivers on the Promise



**Insecticides: Application Frequency/Total AI**

# Technology Enables IPM and Delivers on the Promise



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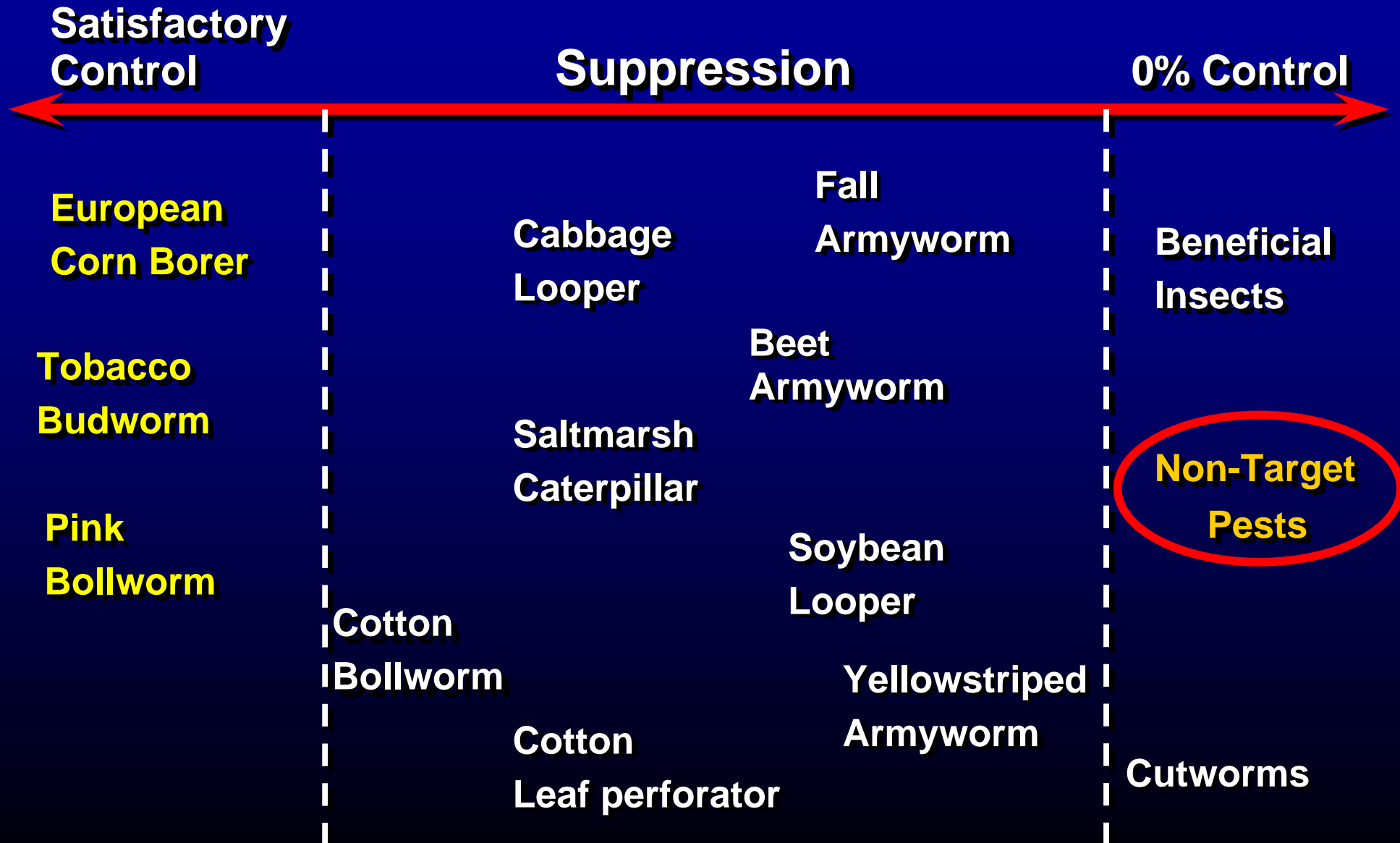
# Technology Enables IPM and Delivers on the Promise



# Issues to Consider

- **Efficacy and Target Pest Spectrum**

# Effects of Bollgard on Cotton Pests





# WideStrike Performance





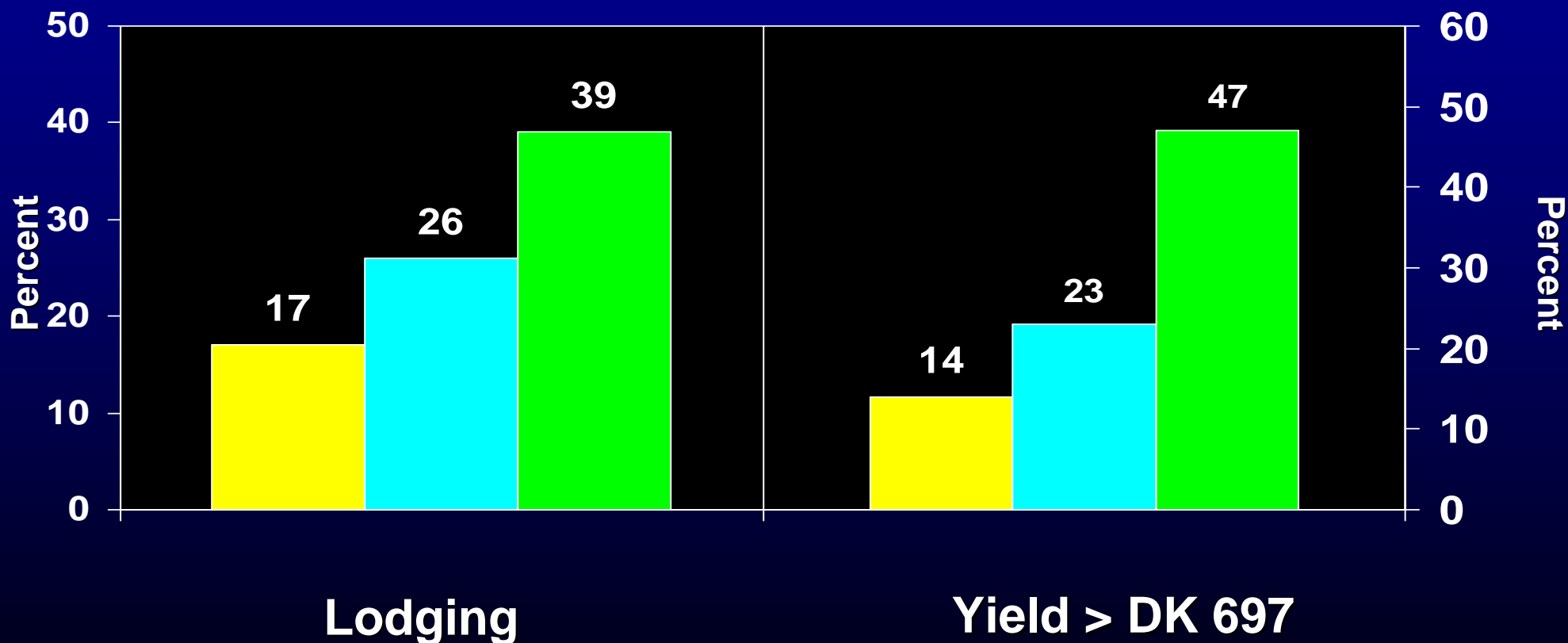
# Corn Borer Pests in LA





# Bt vs Conventional Planting Dates, 2004

■ 10-Mar ■ 25-Mar ■ 15-Apr



# Issues to Consider

- **Efficacy and Target Pest Spectrum**
- **Perception.**

# IPM Emphasis on Transgenic Bt Crops

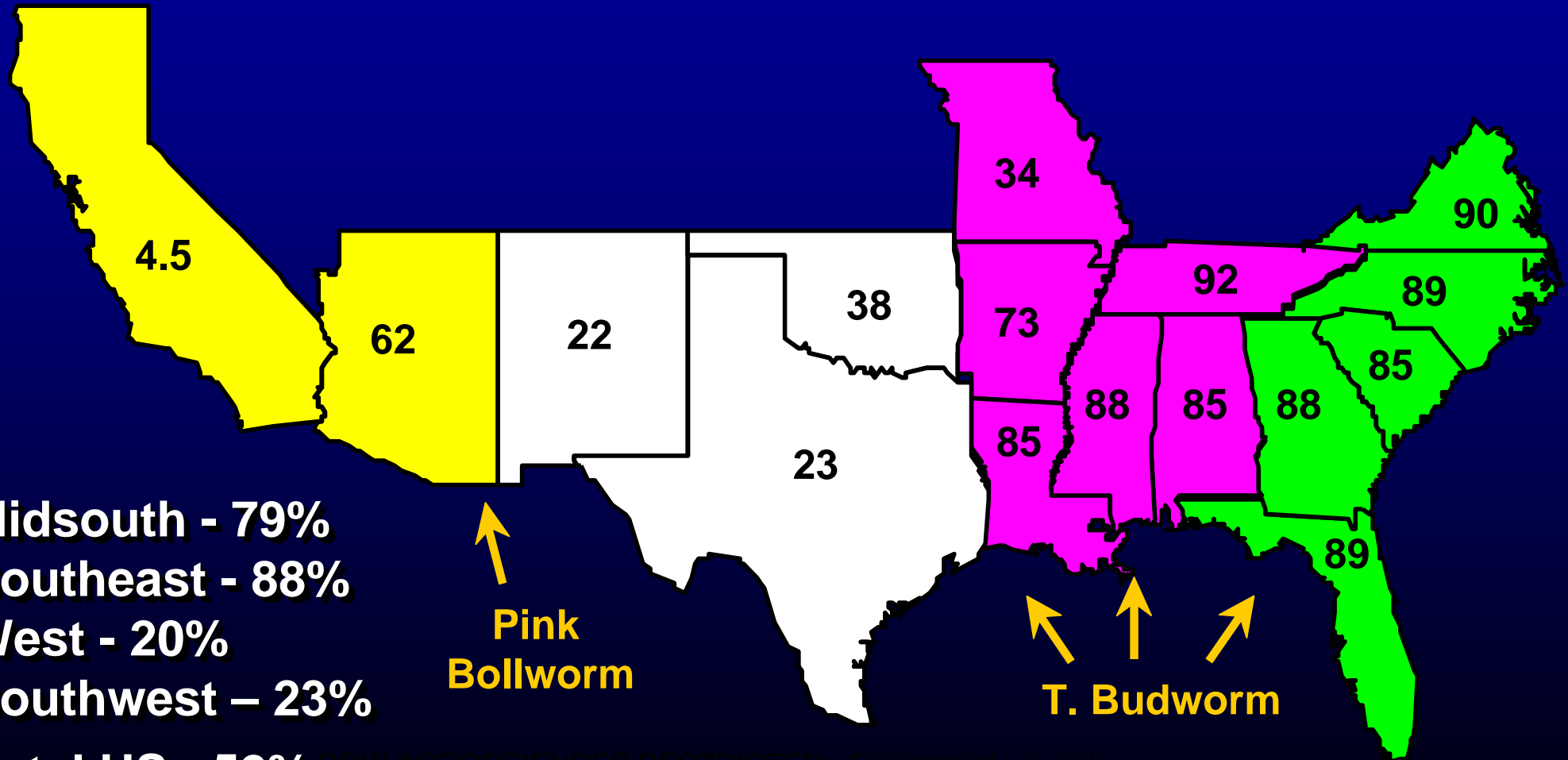
- **Lepidopteran Pressure**
- **Cost of Control**
- **Probability of Failures**
- **Risk Management**





# Cotton Production Regions

## % Bt Cotton - 2005



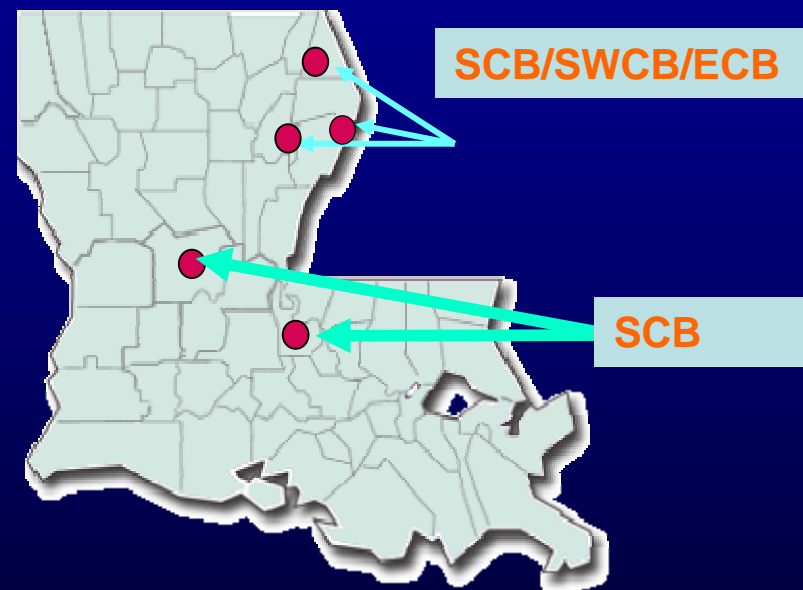
**MidSouth - 79%**  
**Southeast - 88%**  
**West - 20%**  
**Southwest - 23%**  
**Total US - 52%**

**Pink  
Bollworm**

**T. Budworm**

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# Bt Corn Planted Acreage





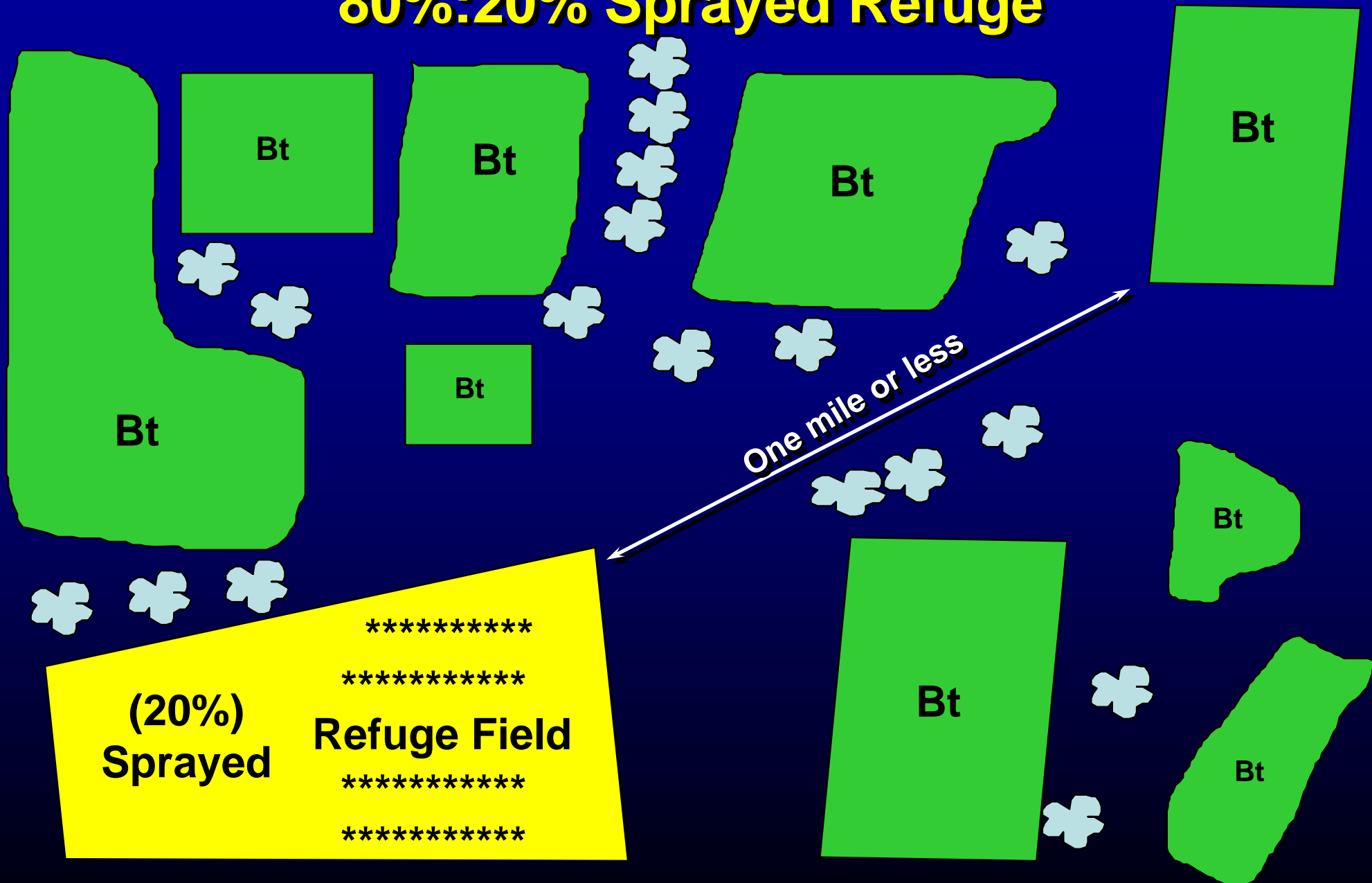




# Issues to Consider

- **Efficacy and Target Pest Spectrum**
- **Perception.**
- **IRM.**

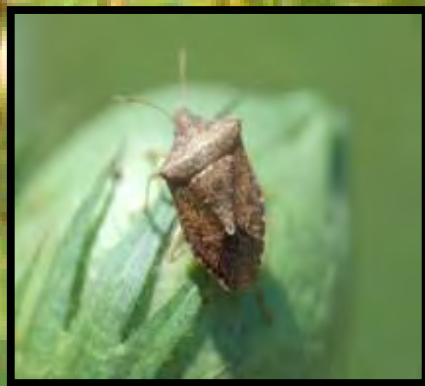
# 80%:20% Sprayed Refuge



# Issues to Consider

- Efficacy and Target Pest Spectrum
- Perception.
- IRM.
- Non-Target Problems.

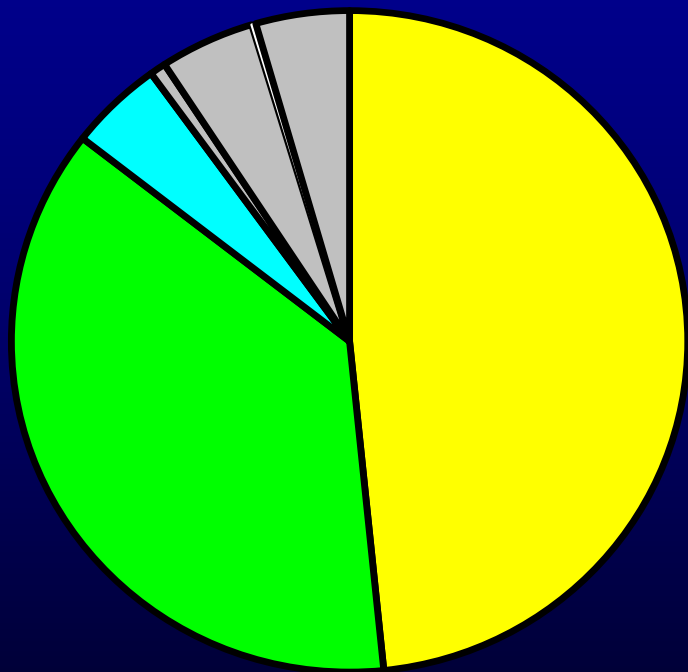




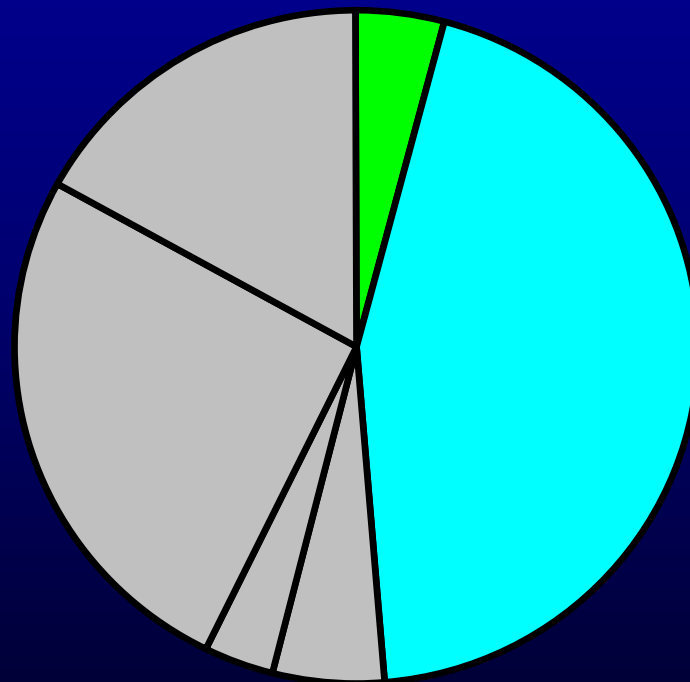
AME 91-81-31

# Cotton Yield Losses - LA Insect Pests

■ Boll Weevil    ■ Heliothines    ■ "Bug" Pests    ■ Other Pests



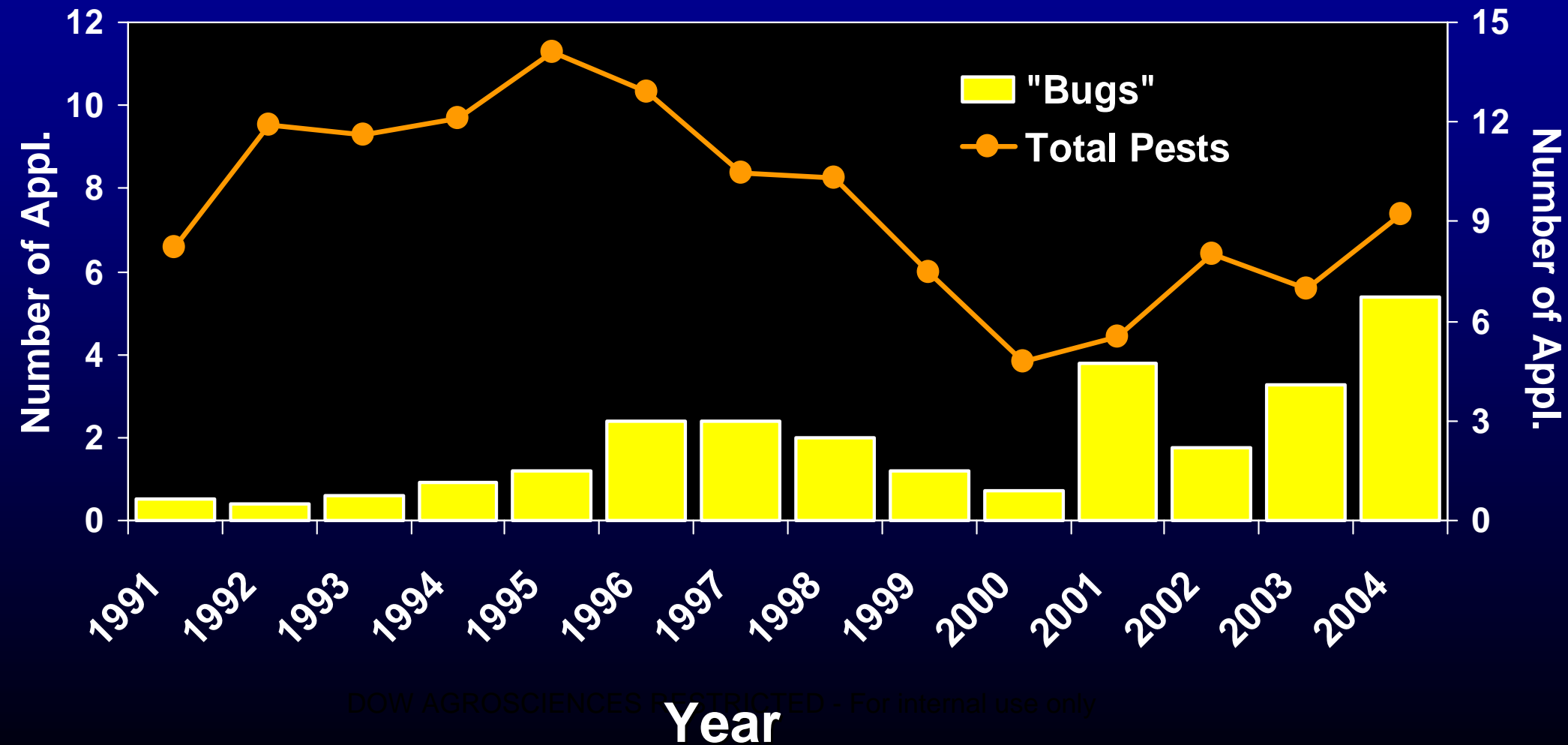
**1995**



**2005**

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Adapted from Williams et al. Insect Losses Reports, BWCC

# Insecticide Application Frequency - LA





# **Pest Status of Tarnished Plant Bug**

- **Altern. Hosts as Refuges (C-Till, WRP, CRP)**
- **Transgenic Bt Cotton**
- **Boll Weevil Eradication**
- **Selective Insecticides**
- **Insecticide Application Efficiency**
- **Insecticide Resistance**

# ***Moodna bisinuella* Hampson**

## **A New LA Pest**



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# Issues to Consider

- Efficacy and Target Pest Spectrum
- Perception.
- IRM.
- Non-Target Problems.
- Prospects for the Future.

## **Future (3-5 Years)**

- **Novel Products / Delivery**
  - **Target Specific.**
  - **IPM Compatible.**
  - **Accepted by Industry and Public.**
- **Challenge: Maintain Performance Through the Logical Use of These Products in an IPM System.**