

# **Cotton Incorporated Crop Management Seminar**

## **Introduction to the Session**

### **Weed Management**

**Robert Nichols**  
**Cotton Incorporated**



# Predominant Issues

## Glyphosate Resistance

- **Management of Glyphosate-Resistant Palmer Amaranth**
- **Management of Glyphosate-Resistant Ryegrass**
- **Containing Glyphosate-Resistant Johnsongrass**
- **Future Cotton and Soybean Weed Management**

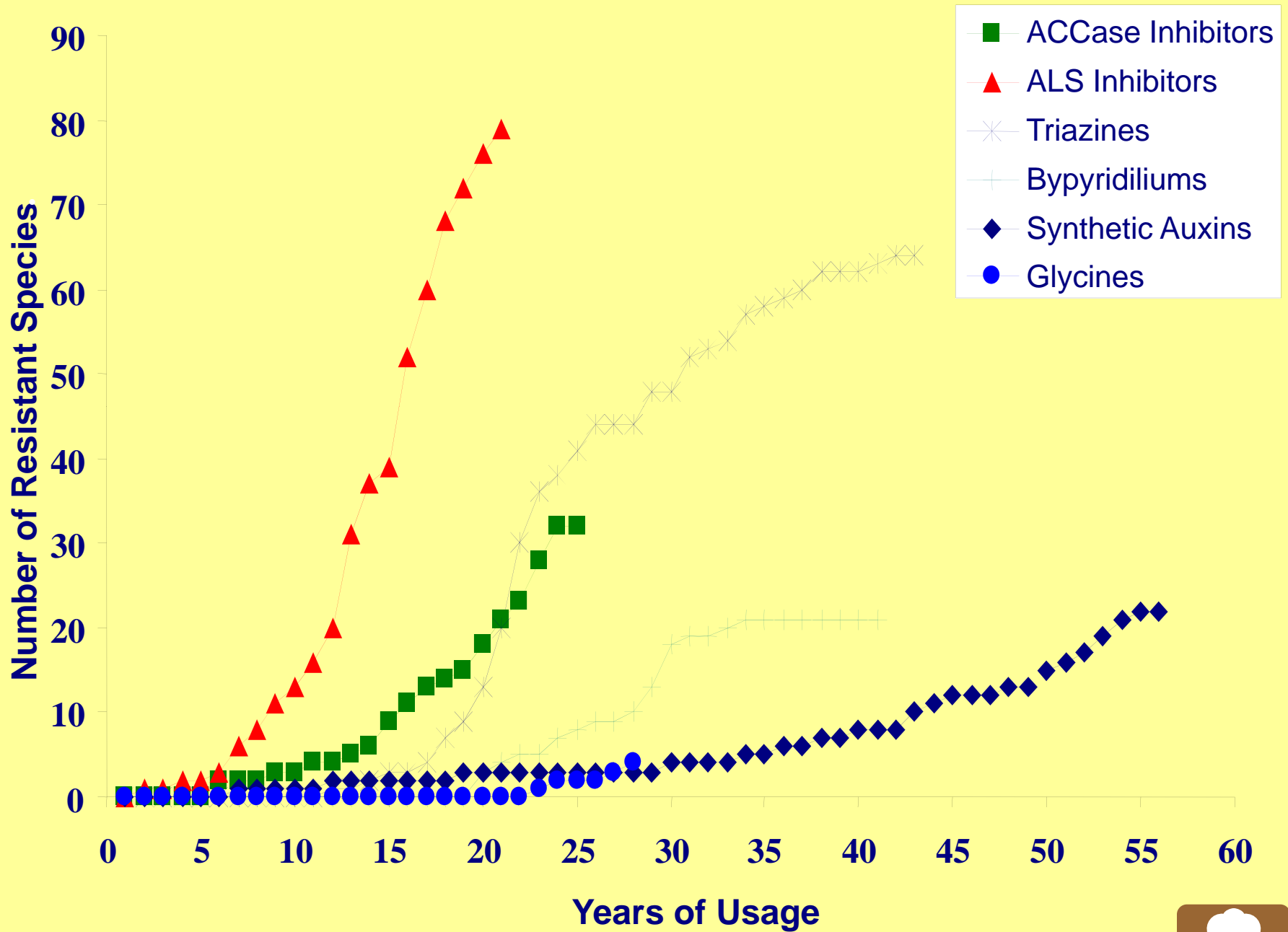


# Definition: Weed Resistance

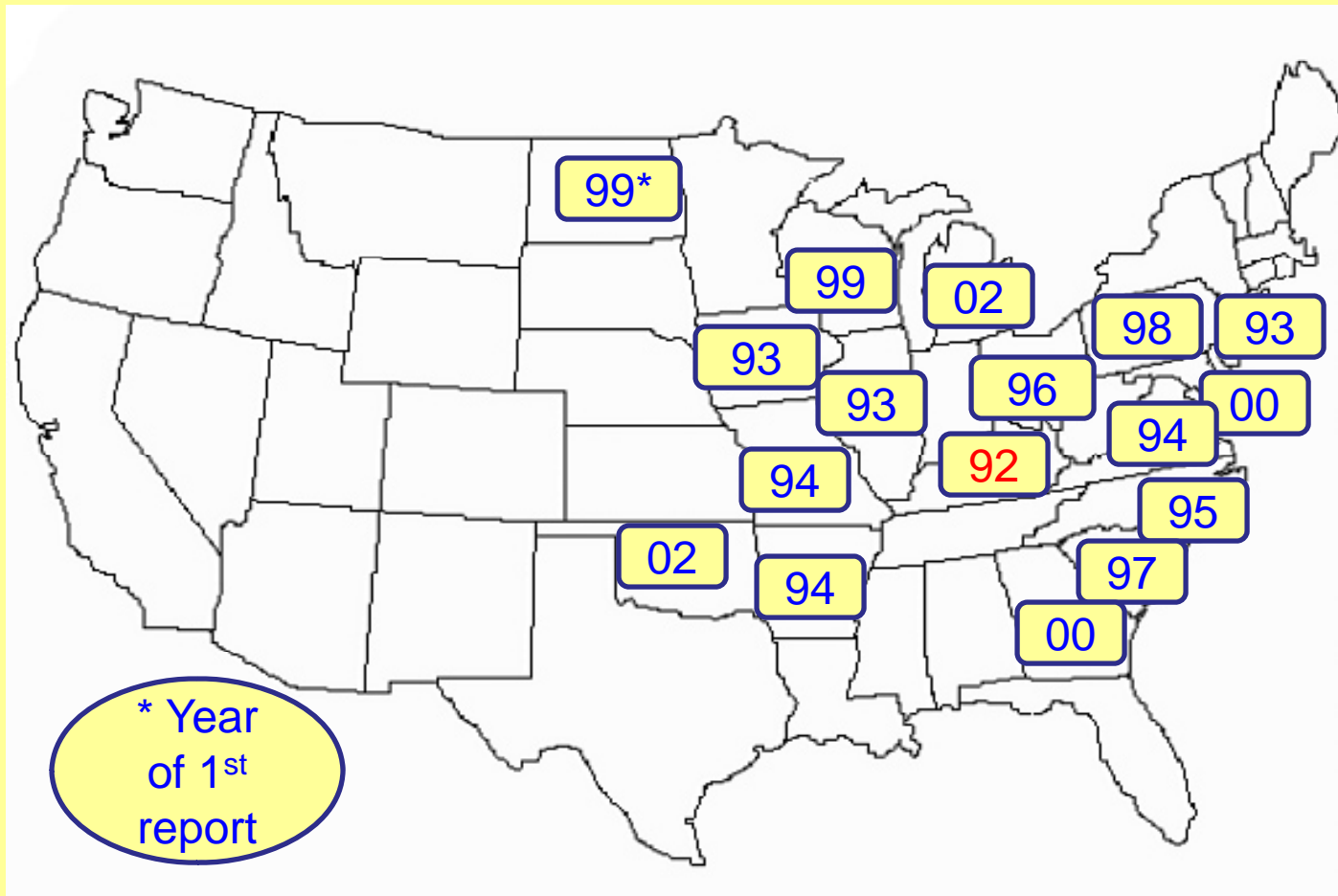
**“Inherited ability of a weed population to survive and reproduce after exposure to an herbicide dose (rate) that would control an unselected population”**

*--- Weed Science Society of America*

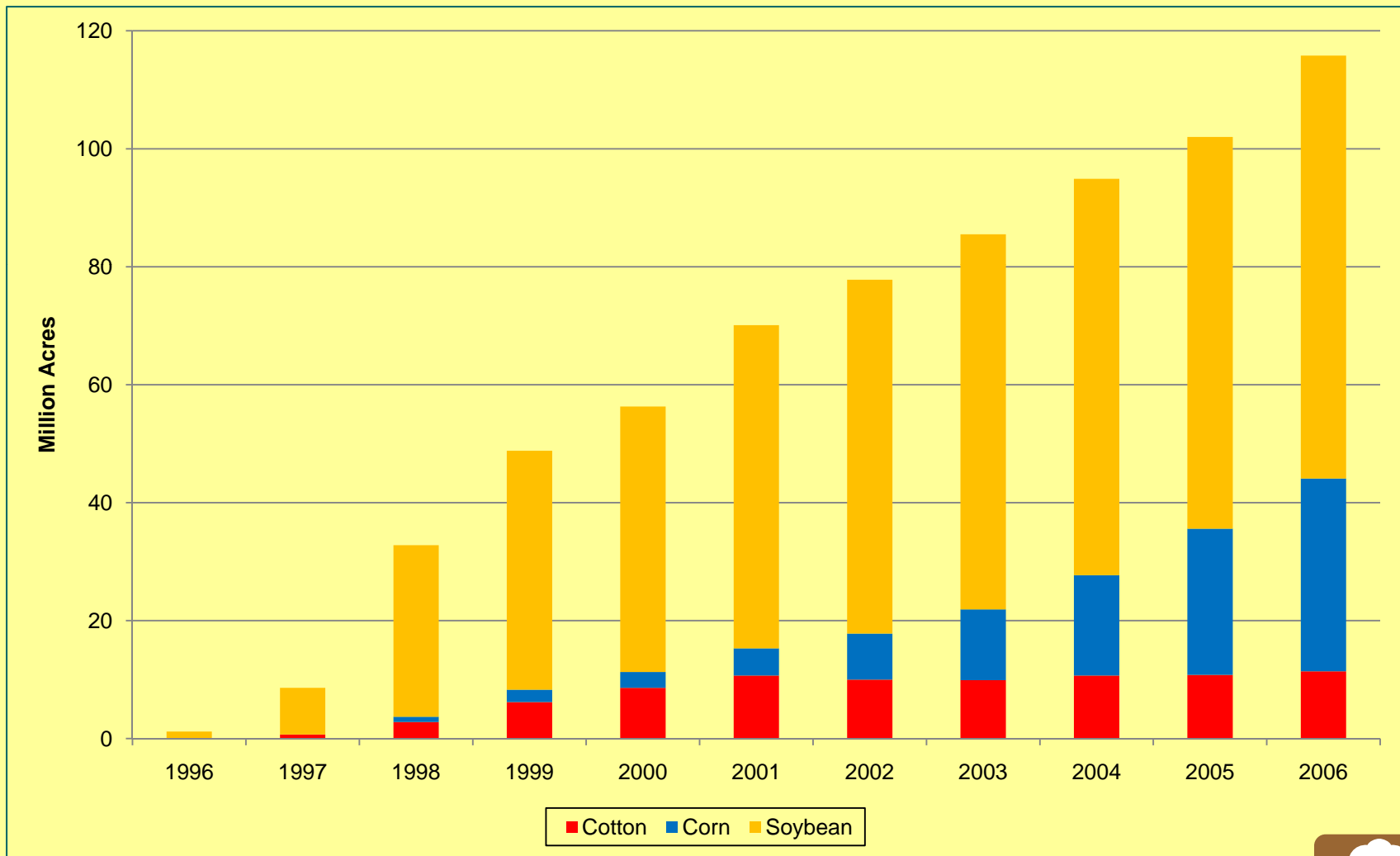




# Acetolactate Synthase Resistant *Palmer Amaranth*

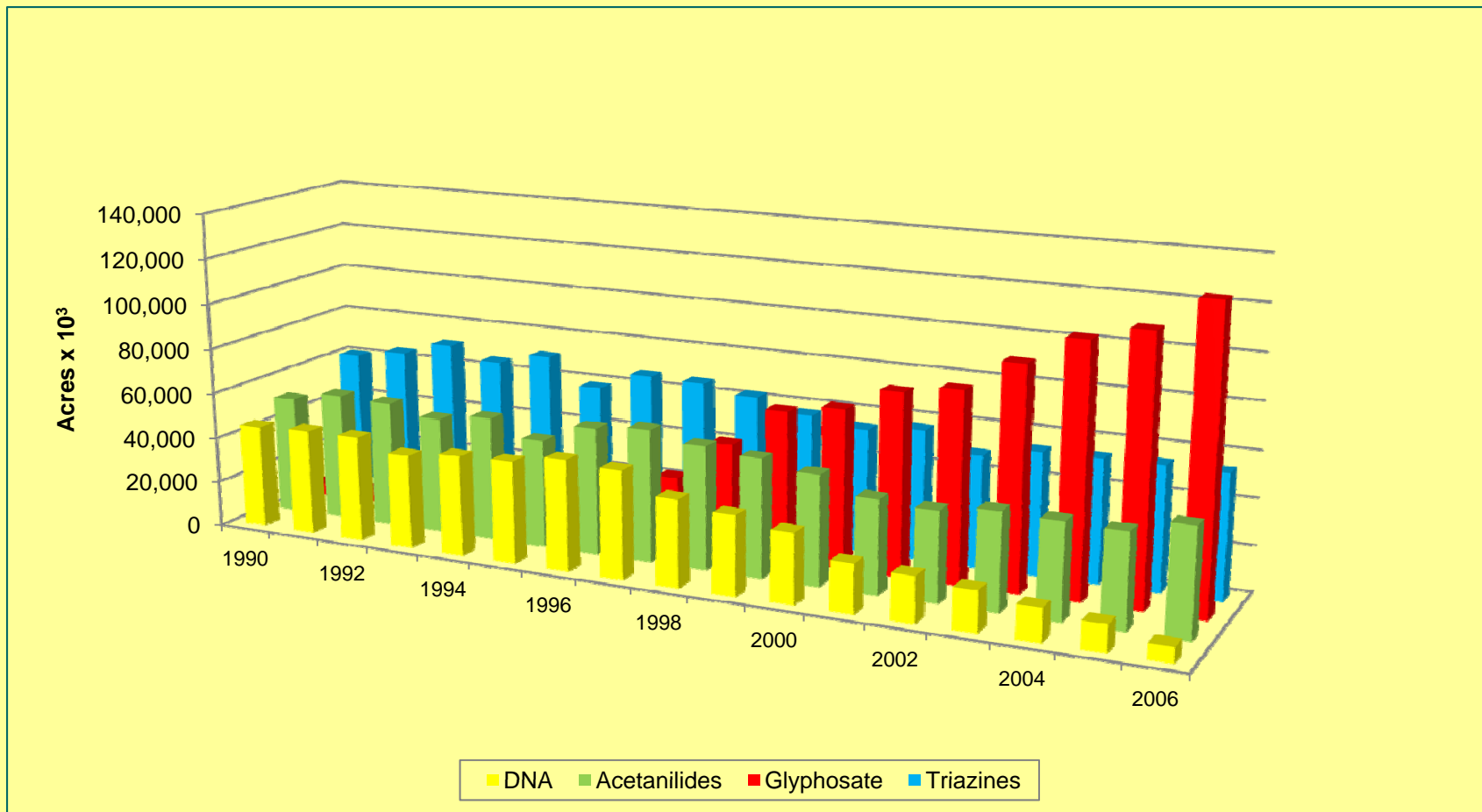


# Glyphosate-Resistant Crop Acres (millions)



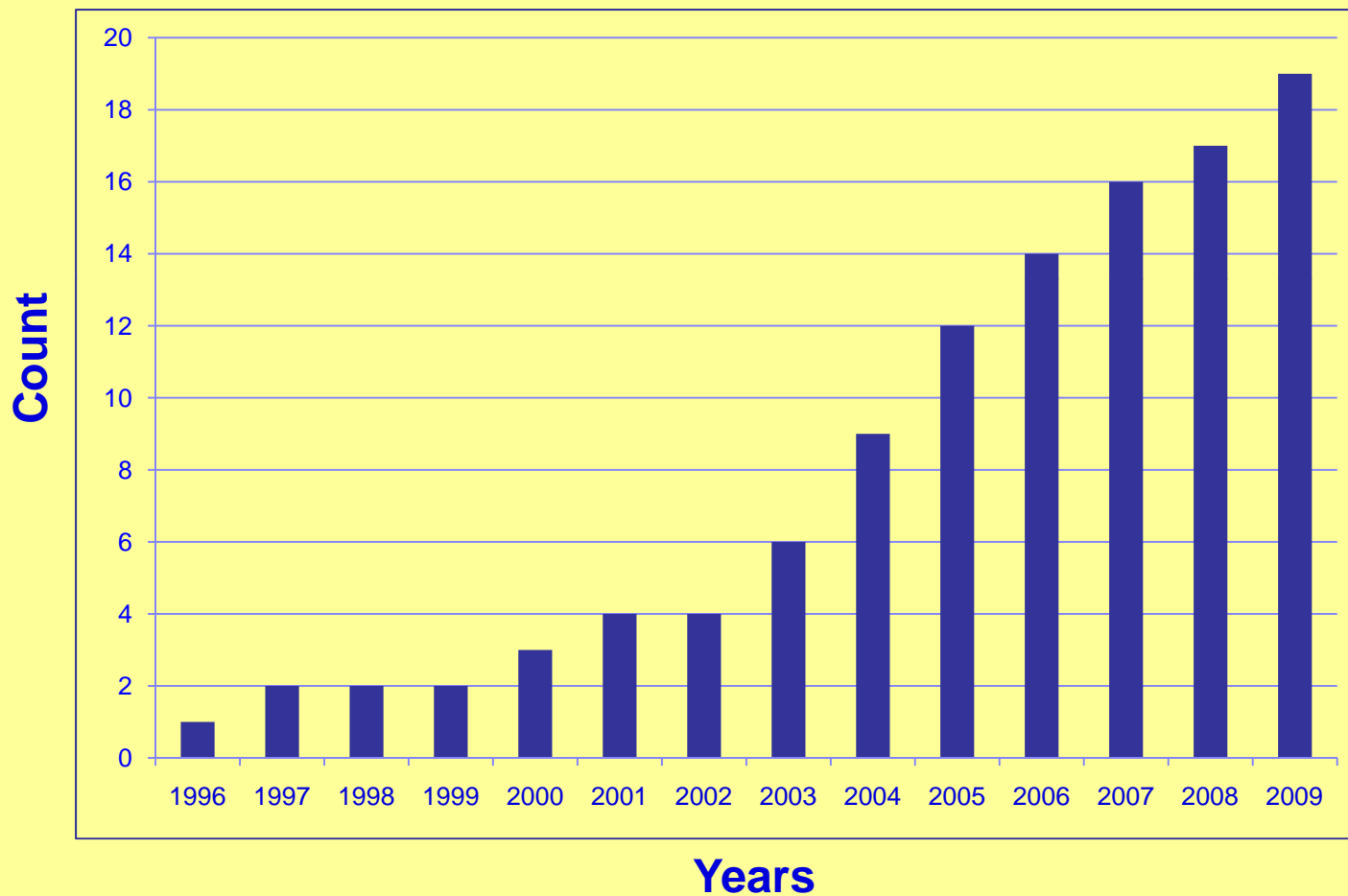


# Total Acres Exposed to Herbicide Modes of Action for Corn, Soybean, Cotton





## Number of Glyphosate-Resistant Species



A photograph of a field densely populated with Palmer Amaranth plants. The plants are tall, green, and have many small, serrated leaves. Some plants have long, thin stems with small flowers or seed heads at the top. The background shows a line of trees under a blue sky with scattered white clouds.

# ***Palmer Amaranth*** ***(Amaranthus palmeri)***

**A dioecious  
annual weed,  
growing  
4-8 feet tall,  
producing  
up to 500,000  
seed per year**

# **Impacts of Glyphosate-Resistant *Palmer Amaranth***

- **Increased complexity and costs of weed management in cotton and soybean**
- **Compromising conservation tillage**
- **May precipitate a cascade of resistance in post emergence broad-leaf herbicides**



# **Glyphosate-Resistant *Palmer Amaranth***

## **Economic Threat to Soybeans**

If ALS and glyphosate are compromised, PPO herbicides are the **only post emergence option except glufosinate**

## **Economic Threat to Cotton**

If ALS herbicides and glyphosate are compromised; PPO herbicides are **not** an over-the-top option, there are **no selective post emergence options for cotton except glufosinate**

