

Cotton Incorporated Crop Management Seminar

Introduction to the Session

Weed Management

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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

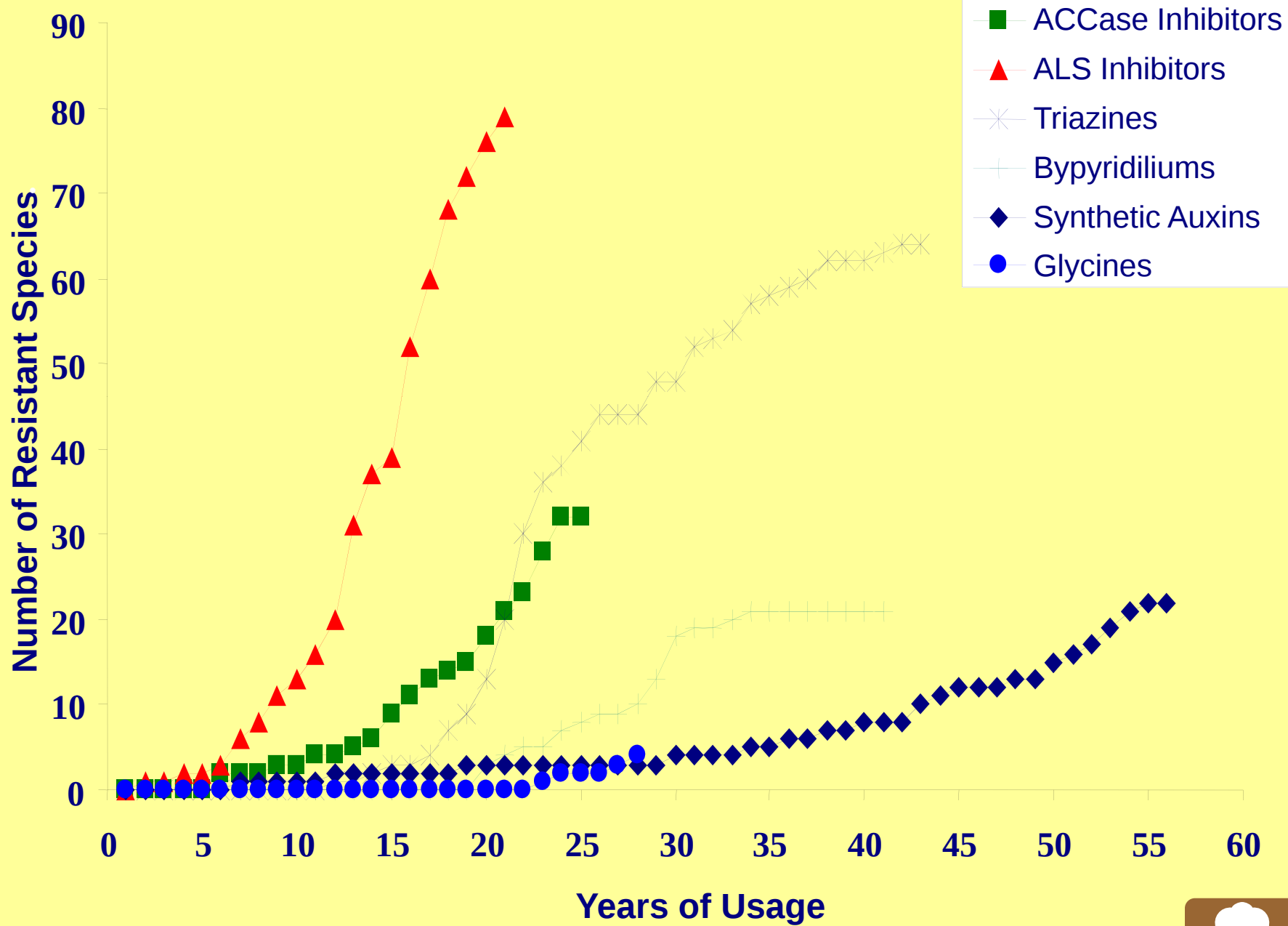


Definition: Weed Resistance

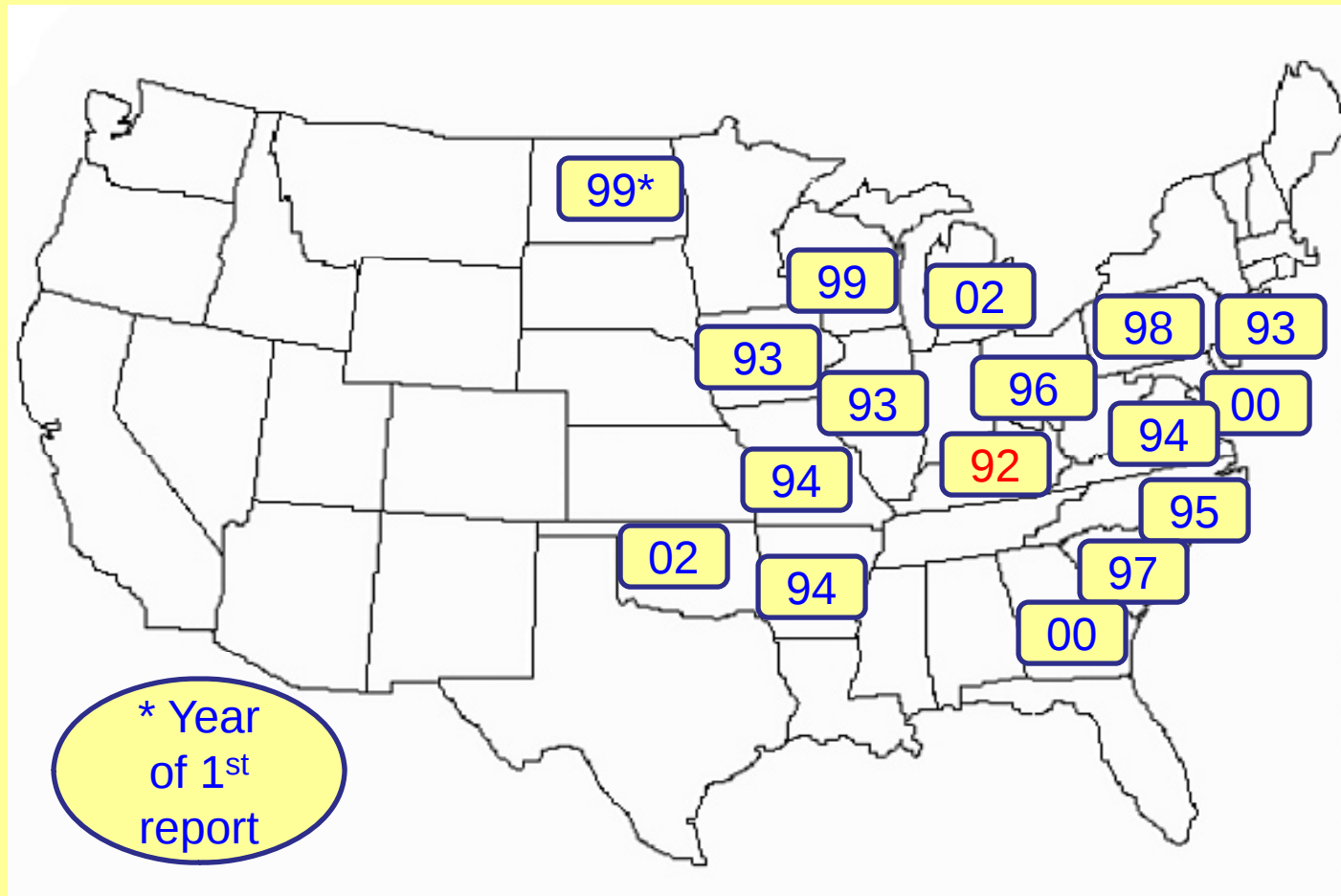
“Inherited ability of a weed population to survive and reproduce after exposure to an herbicide dose (rate) that would control an unselected population”

--- Weed Science Society of America

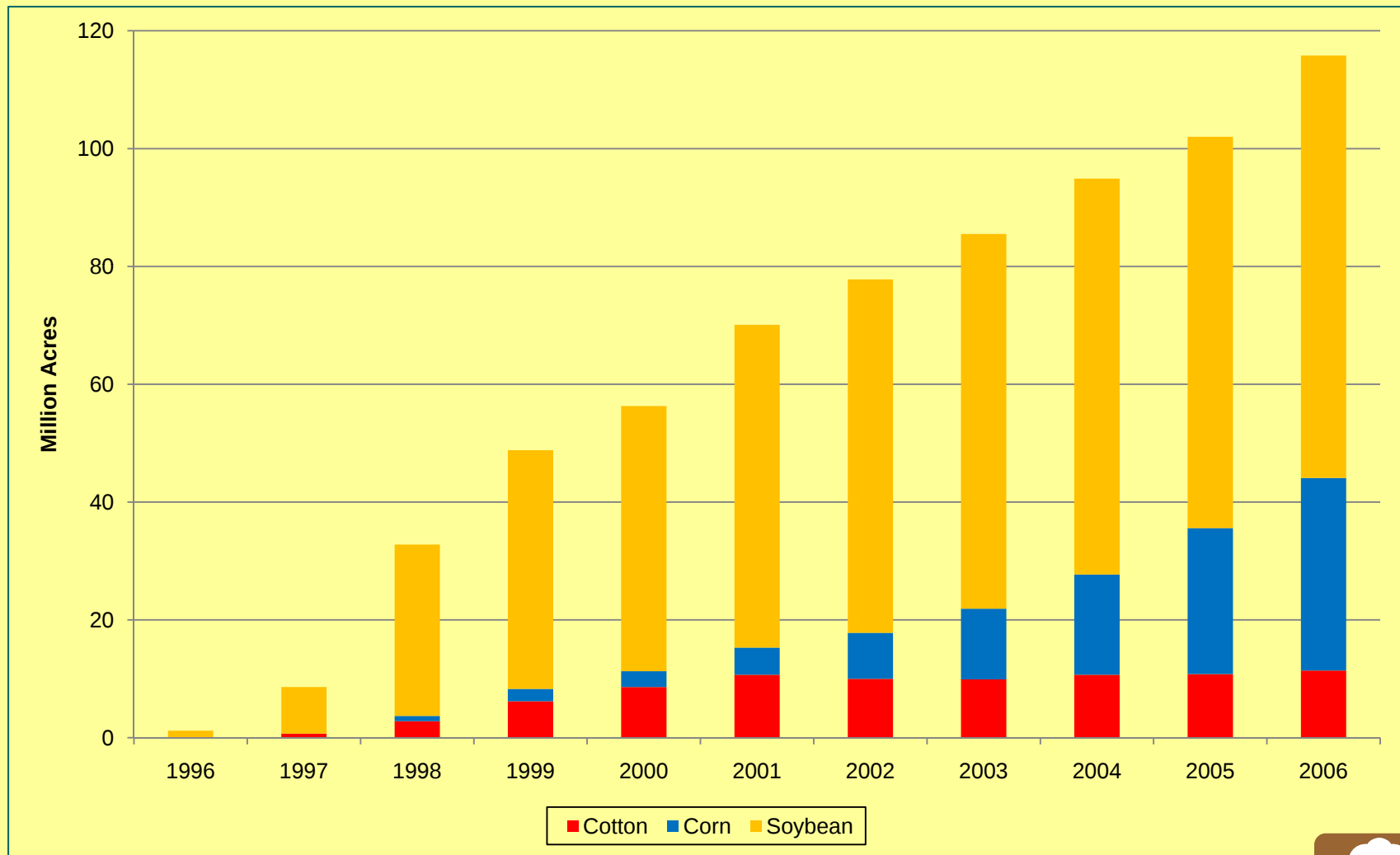




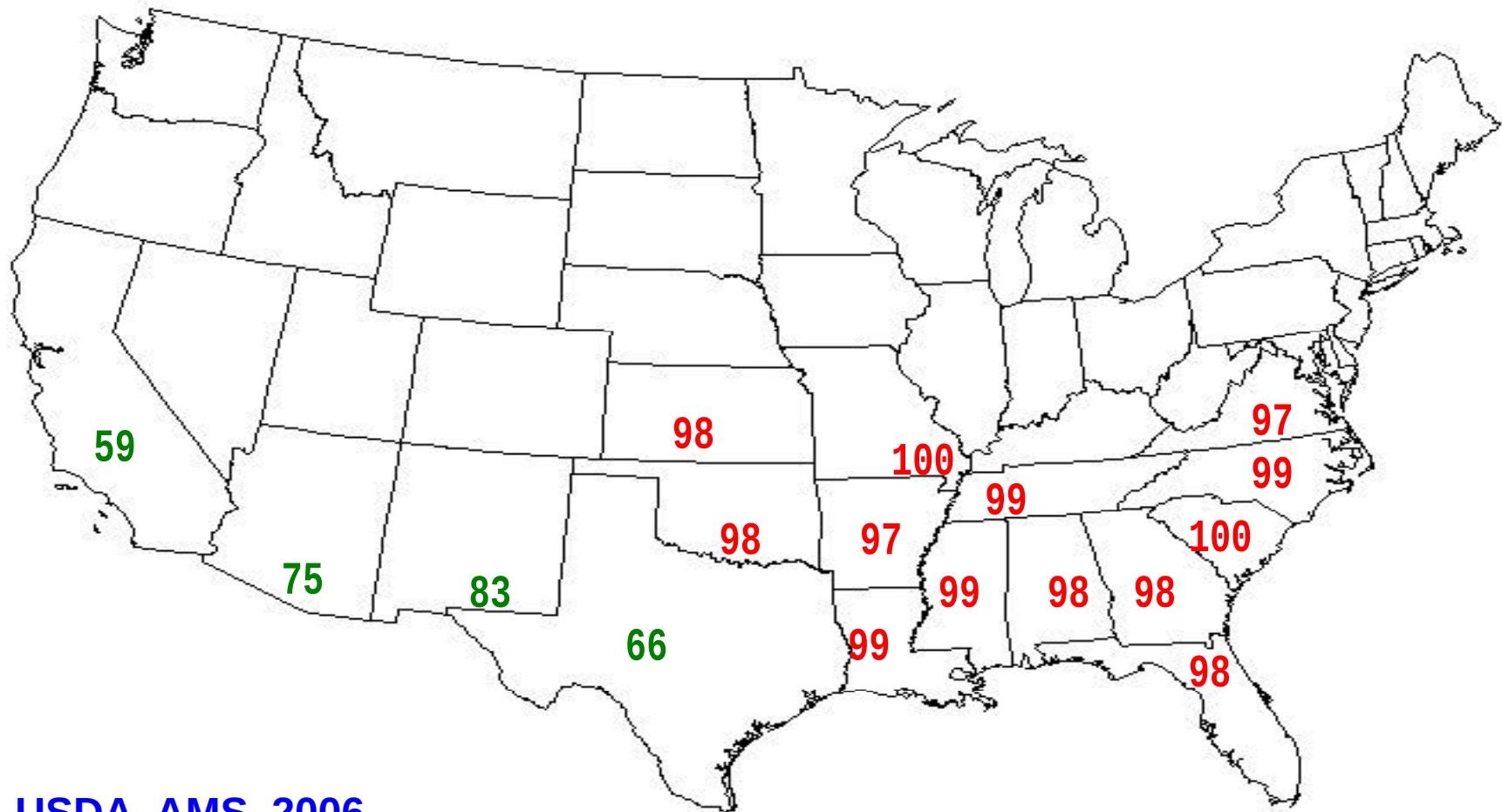
Acetolactate Synthase Resistant *Palmer Amaranth*



Glyphosate-Resistant Crop Acres (millions)



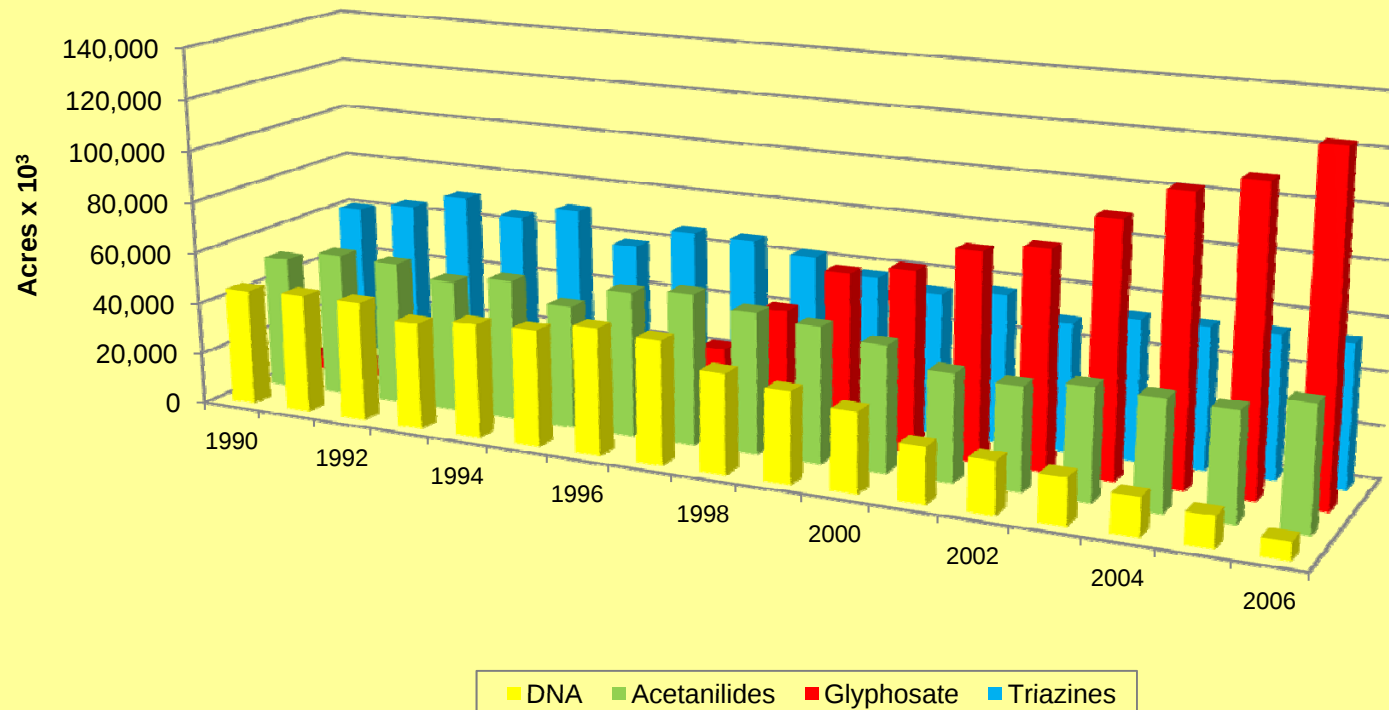
Percent of Glyphosate-Resistant Cotton Cultivars



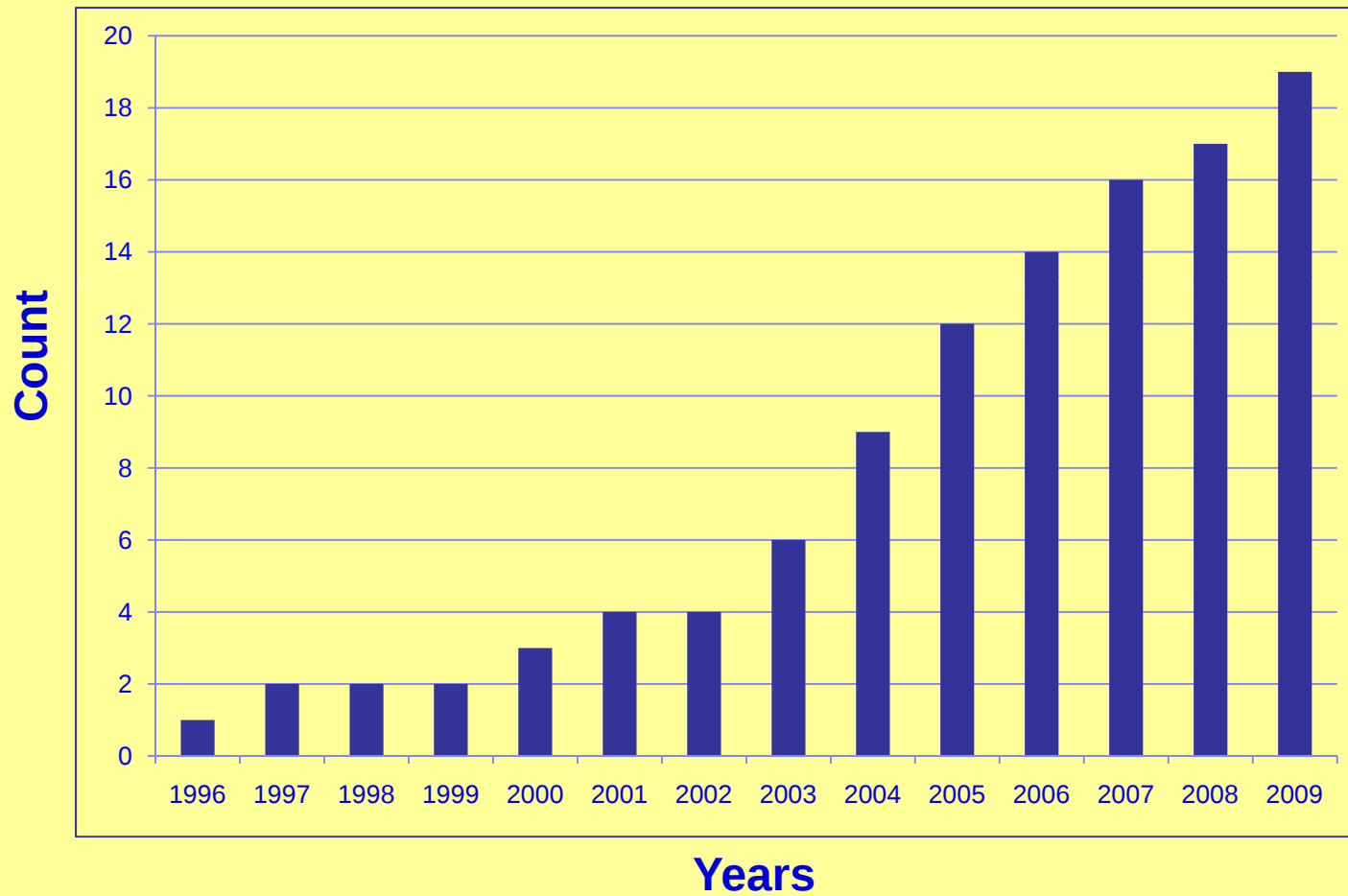
USDA, AMS. 2006.

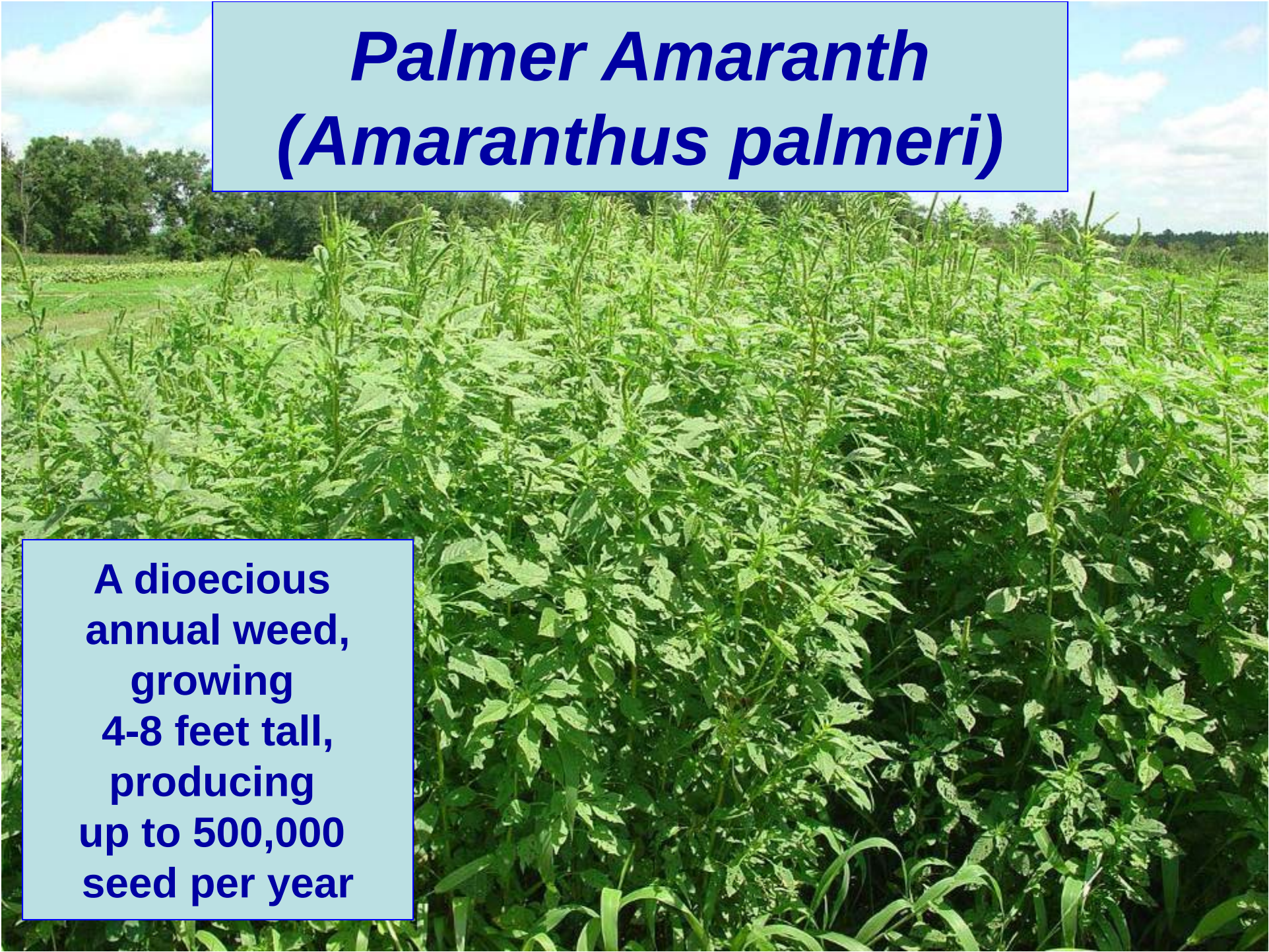


Total Acres Exposed to Herbicide Modes of Action for Corn, Soybean, Cotton



Number of Glyphosate-Resistant Species



A photograph of a dense field of Palmer Amaranth plants. The plants are tall, green, and have many small, pointed leaves. They are growing in a field with some other vegetation visible in the background. The sky is blue with some 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

