

Adaption and Management of New Cultivars

Darrin M. Dodds

Mississippi State University



Variety Selection

- **A key factor in producing a successful crop**
- **Variety selection has been identified as a key issue by cotton growers throughout the U.S.**
- **No longer simply choosing a variety to plant**
 - **Trait packages must be considered**
 - **Seed treatments**
 - **Performance**

Variety Performance

- **Substantial data exists regarding variety performance**
 - MSU OVT trials: 9 locations
 - MSU on-farm variety trials: 23 locations
 - DP FACT trials
 - DP NPE trials
 - Phytogen Innovation trials
 - Bayer CAP trials
 - CropLan Answer Plots
 - Jimmy Sanders Opti-Grow
 - Others
- **Data is lacking on management of new varieties**

Variety Adaption

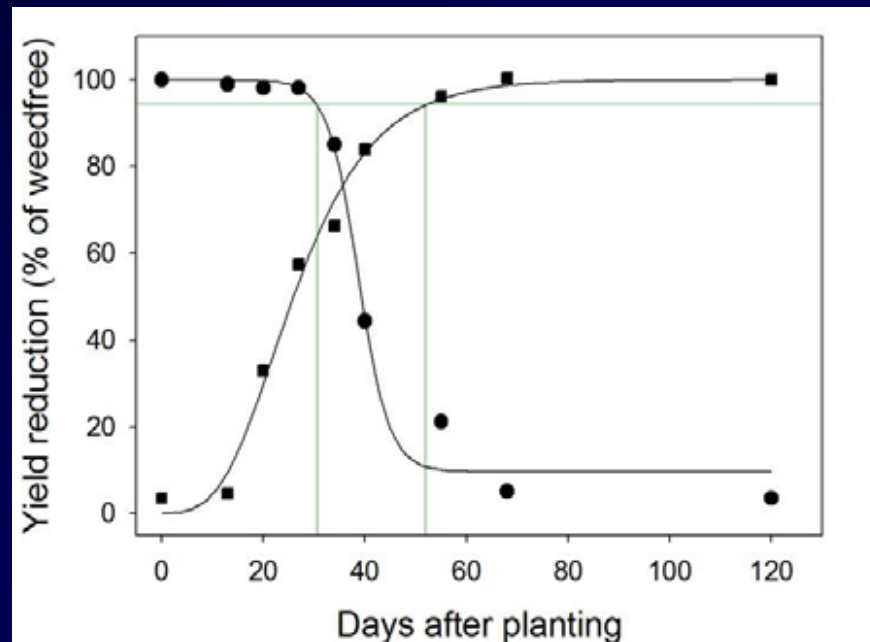
- **Adaption defined:**
 - An inherited or acquired modification in organisms that makes them better suited to survive and reproduce in a particular environment
- **Laymen's terms:**
 - The performance of a given variety is influenced by the environment it is grown in

Where is the Data???

- **Very difficult to gather data for every possible crop management situation**
- **Goal is to generate reliable data for as many situations as possible**
 - **Crop management differs from pest management**
- **Why is it difficult to obtain data?**
 - **Variety lifespan**
 - **Rate of variety introduction**
 - **Funding for research**

Crop Management

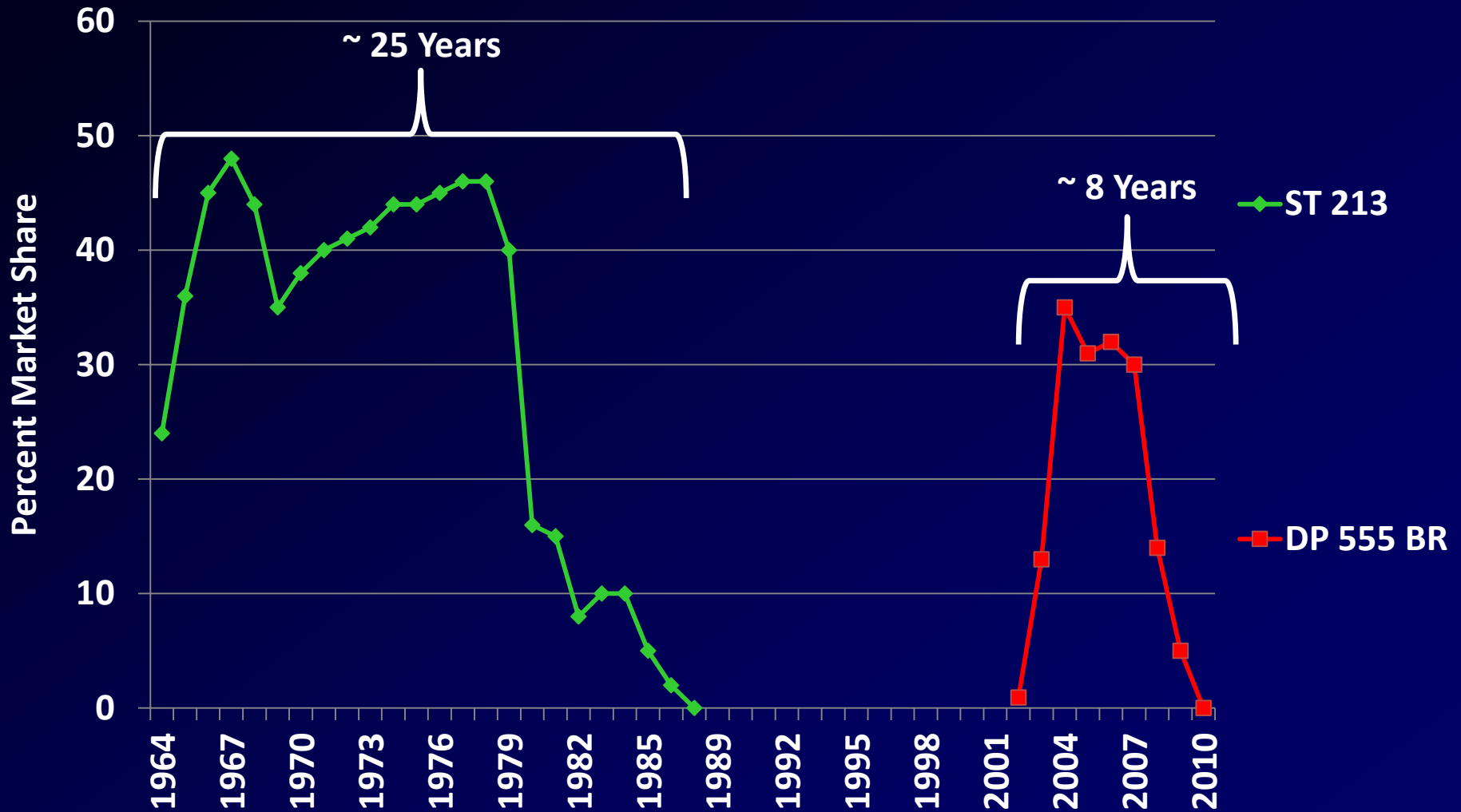
- Established thresholds for insects
 - 3 plant bugs per 6 row feet for blooming cotton
- Critical period of weed interference



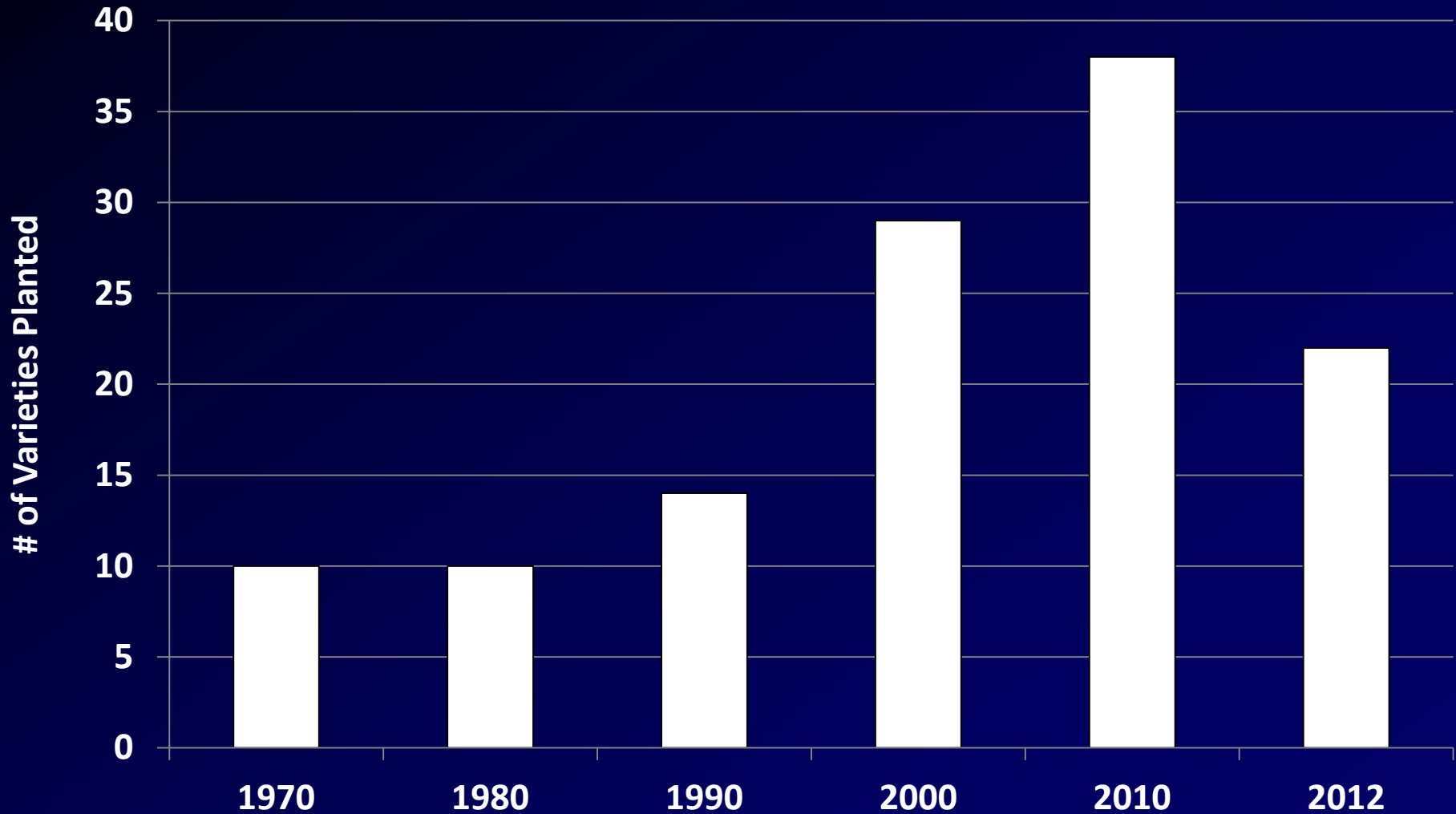
Where is the Data???

- Impossible to gather data for every possible crop management situation
 - Crop management differs from pest management
- Goal is to generate reliable data for as many situations as possible
 - Crop management differs from pest management
- **Why is it difficult to obtain crop management data?**
 - **Variety lifespan**
 - **Rate of variety introduction**
 - **Funding for research**

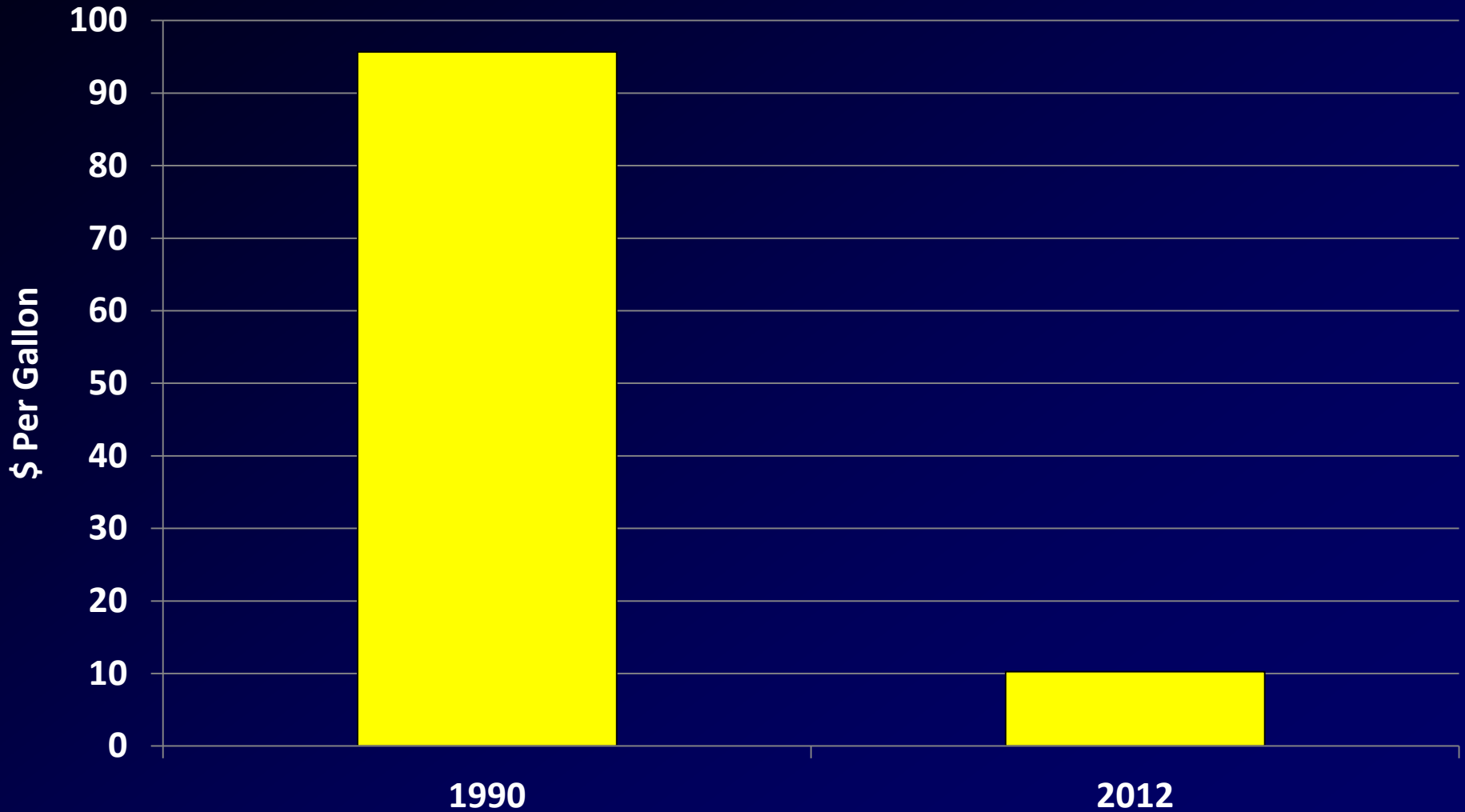
Varieties Planted in Mississippi



Variety Turnover



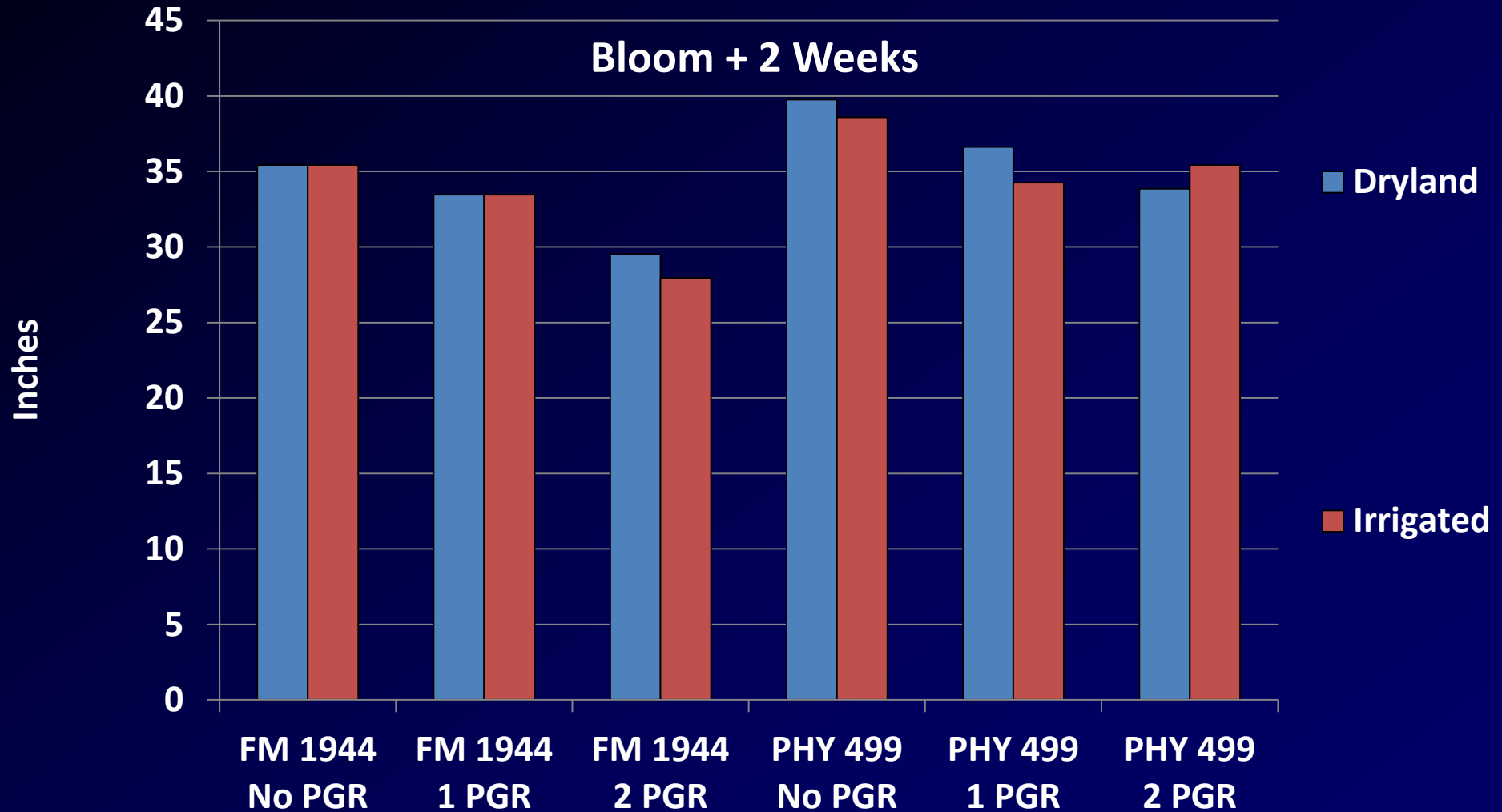
Plant Growth Regulator Cost



What is Being Done?

- **Several university and private industry projects examining variety response to PGR application**
- **Critical need for irrigation management**
- **Collaborative research**
 - **Multi-disciplinary**
 - **Multi-state**

Management Example – Plant Height



Management Example – Yield

