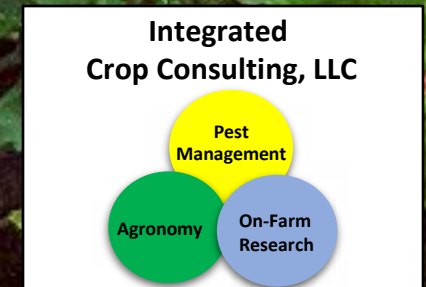
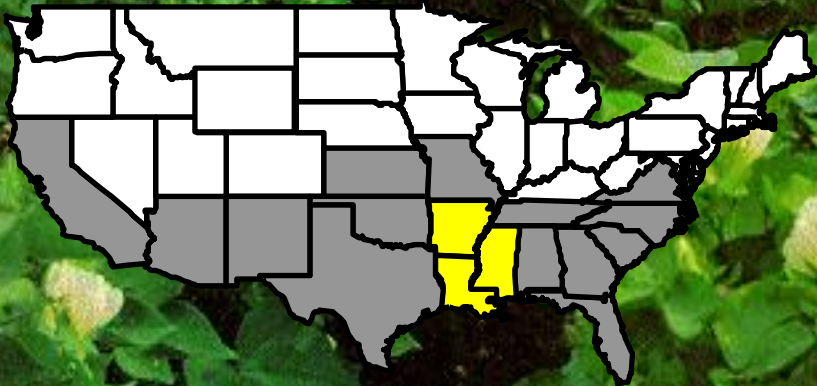


2025 NAICC Annual Meeting
IPM Session: Taking IPM to the Next Level
Monterrey, CA (January 24, 2025)

**IPM Strategies to Manage Emerging
Pest Problems**

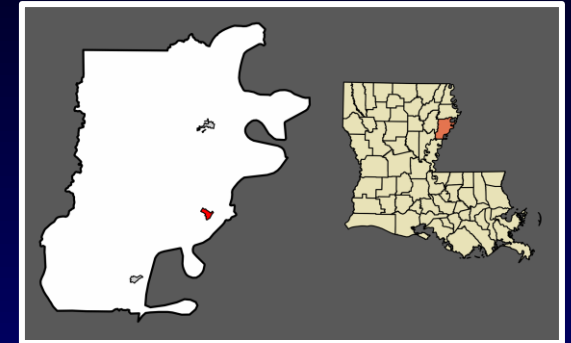
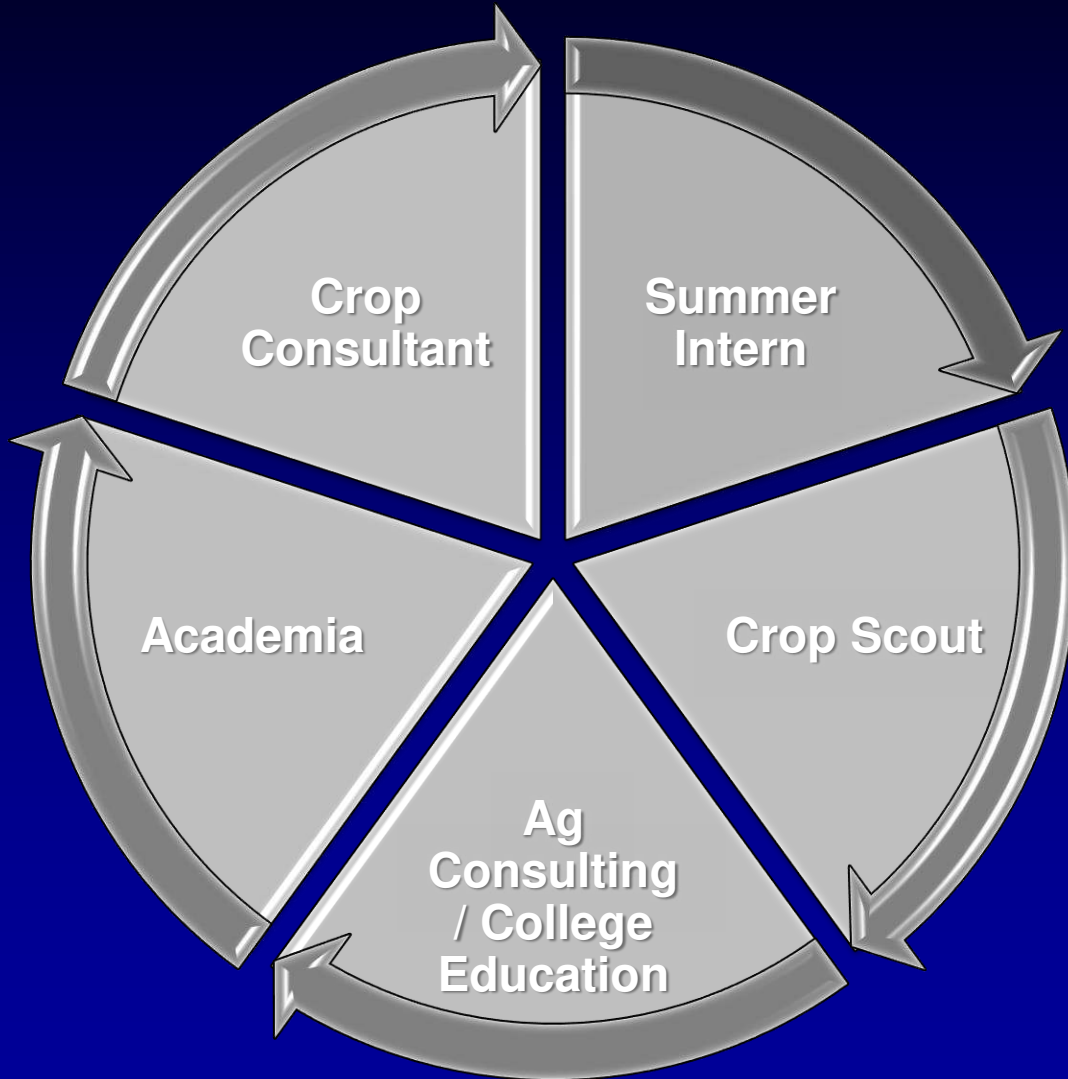
B. Rogers Leonard



Presentation Outline

- **Background – “Never Say Never”**
- **Emerging Pests**
- **IPM Considerations**
- **Case Studies**
 - **Red Banded Stink Bug**
 - **Italian Ryegrass**

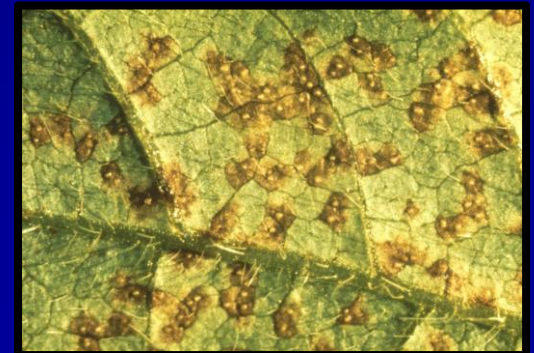
A Professional Circle



Emerging Pest Issues (IPPC - 2018)

- **Invasive Pests**

- **New Geography (local, region, or national)**
- **New Host / Crop**
- **Examples include: Red Imported Fire Ant, Spotted Lanternfly, Chinese Tallow Tree, Kudzu, Soybean Rust**



Emerging Pest Issues

- **Invasive Pests**

- The most effective way to deal with invasive pest species is to prevention (USDA-APHIS).
- Early detection / rapid response (EDRR) is more effective than managing a widespread infestation.
- “First responders are people in the field”.
- North American Invasive Species Management Association (NAISMA).

Emerging Pest Issues

- **Induced Pests**

- **Change in Pest Status**

- **Secondary to Primary**
- **Emergence as a Pest**

- **Examples include: Tarnished Plant Bug, Waterhemp spp., *Cercospora* spp. blight**

Emerging Pest Issues

- **Induced Pests**
 - **Production System**
 - **Agronomy, Pest Management, Technology**
 - **Pest Resistance**
 - **Weeds, Arthropods, Plant Pathogens**
 - **Climate Change**
 - **Temperature and Moisture**

IPM Considerations

- **Consultants - “the First to Respond”**
 - **Detection, Identification, Surveys**
 - **Initial Control Tactics & Evaluation**
 - **Reactive vs Preventative**



IPM Considerations

- **Communication Networks & Education**
 - **LGU Extension / Research**
 - **USDA**
 - **Fellow Consultants**
 - **Industry**
 - **Academia, Internet References**

IPM Considerations

- **Client Management – No. 1 Priority**
 - Expectations
 - Reactive Pest Management (Acute)
 - Yield / Quality Preservation
- **Closest Companion Pest / Surrogate**
 - Injury Estimates, Action Thresholds, IPM
- **Sampling / Evaluation**
 - Procedures and Frequency

IPM Considerations

- **Networking and Information Sharing**
 - **Expectations**
- **Assessment for Re-Treatment**
- **Records and Field Notes**
 - **Infestation Prediction**
 - **Future Control / Prevention Strategies**

Case Study 1 - Red Banded Stink Bug *Piezodorus guildinii* (Westwood)

Successful control

Difficult control



S. Green &
Green Stink
Bug



Large, late-
instar nymphs



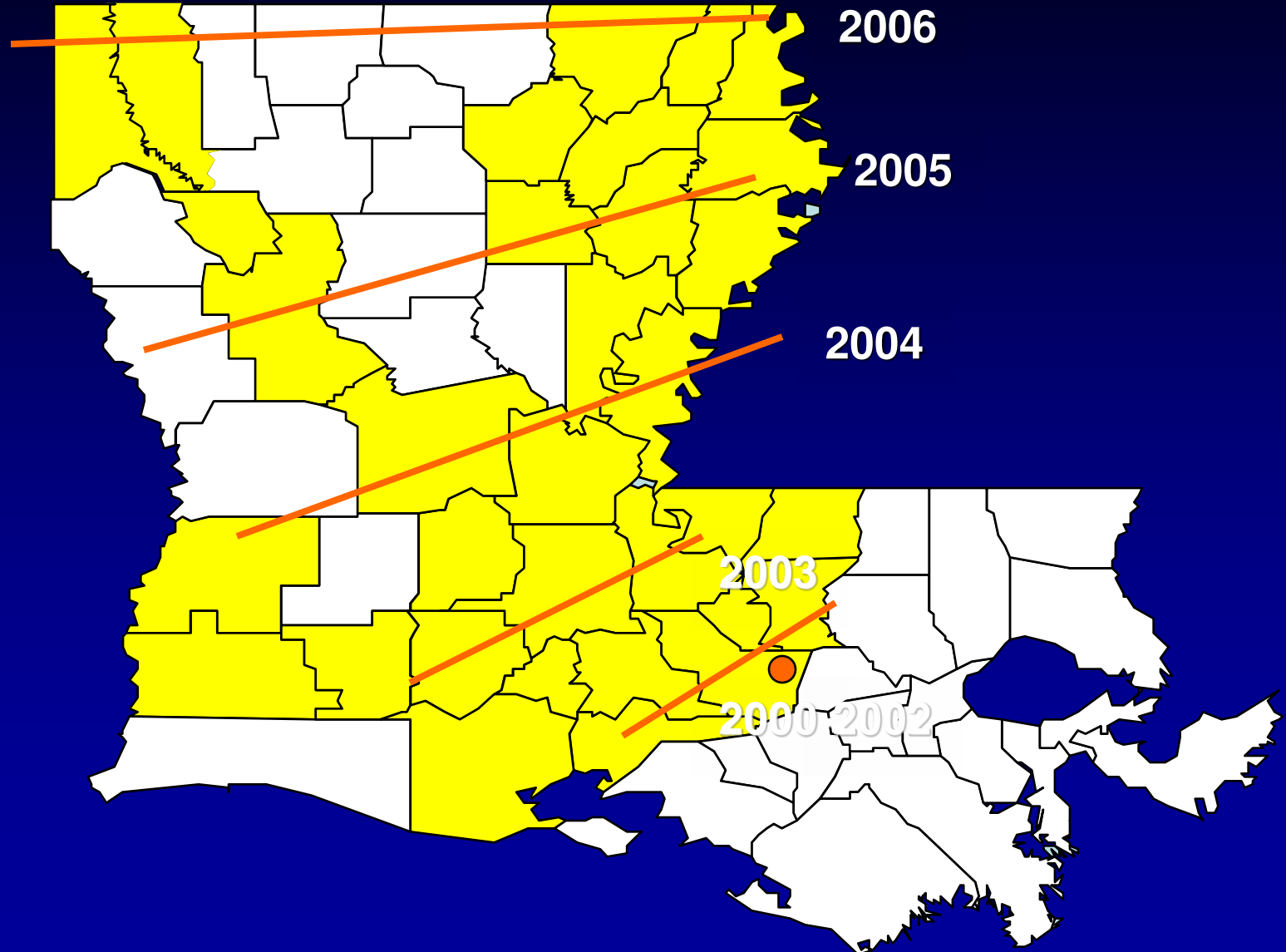
Brown Stink
Bug Spp.



Red Banded
Stink Bug

Piezodorus guildinii

2004-07 Distribution – Positive ID



Redbanded Stink Bug

Primary Pest of LA Soybean


Soybean Damage at Harvest
Pods infested for 72 Hrs (RBSB)



- 41% Soybean Seed Damaged
- 35% Reduction in Seed Wt.
- No Difference – Nymphs vs. Adults





Case Study 1 – Summary

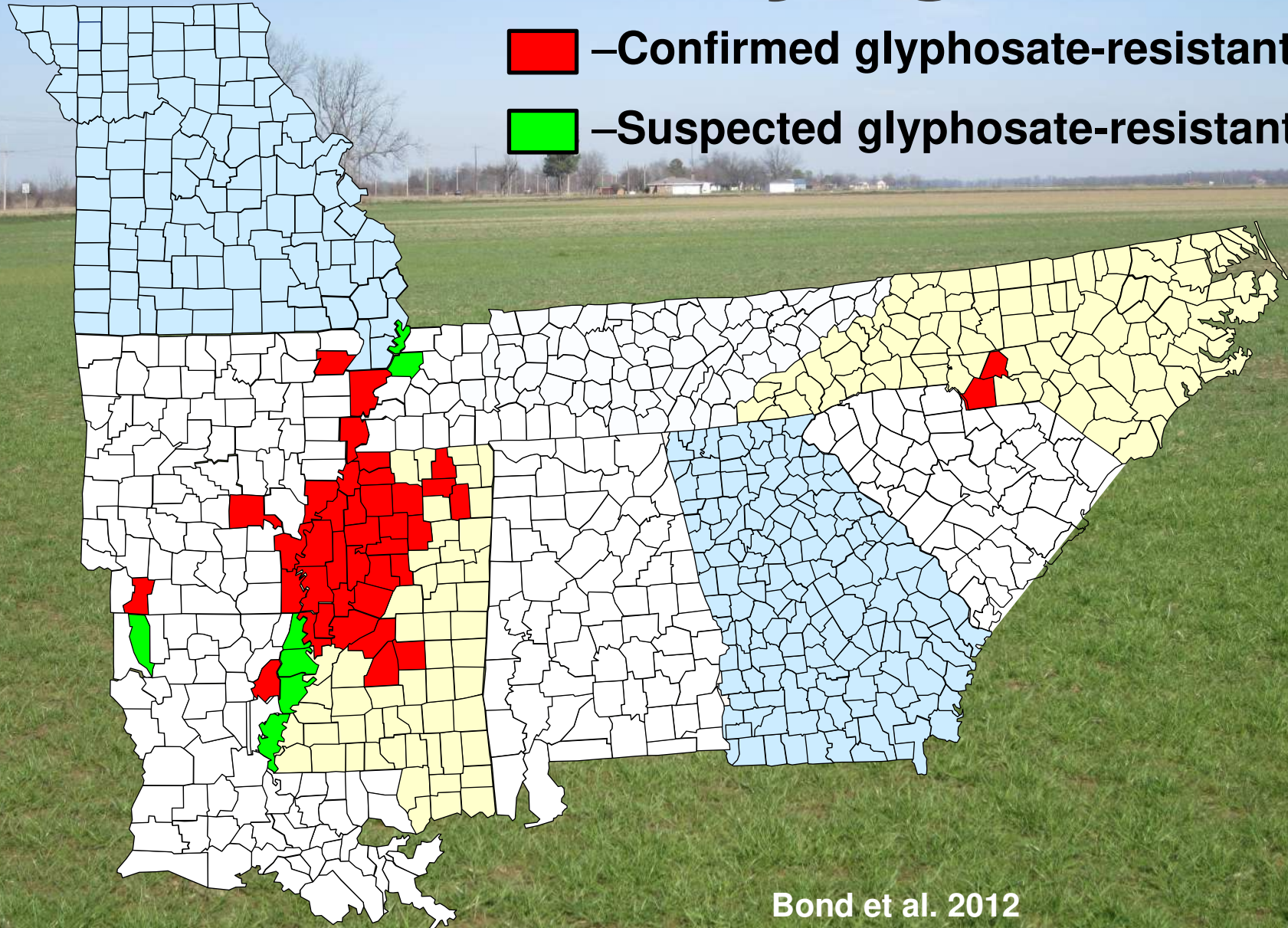
- **RBSB Became a Dominant Species by 2008**
- **RBSB Reaches AT in All LA Soybean Regions**
- **LA Soybean Insecticide Applications** 
- **RBSB is More Cold-Tolerant than Other SB**
- **Early Season Production Systems (Avoidance)**

Case Study 2 - Italian Rye Grass (*Lolium perenne ssp. multiflorum*)



GR Italian Ryegrass

-  –Confirmed glyphosate-resistant
-  –Suspected glyphosate-resistant



Italian Rye Grass





Documented Italian Ryegrass Herbicide Resistance

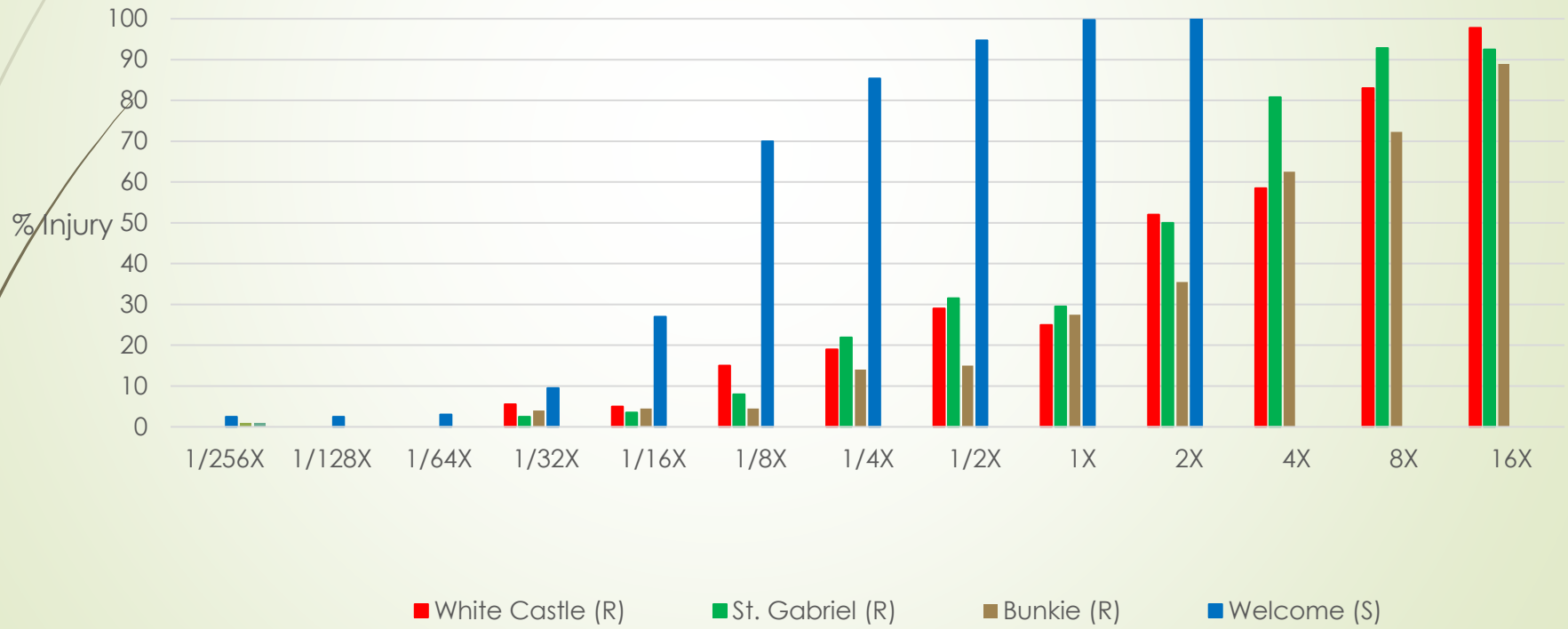
- Orchard in Hamilton City, CA – Apr. 2015
 - Multiple resistance to ACCase-inhibiting herbicides and glyphosate
- Orchard in the Willamette Valley, OR – 2017
 - Multiple resistance to ACCase-inhibiting herbicides and glyphosate

Brunharo and Hanson (2018)

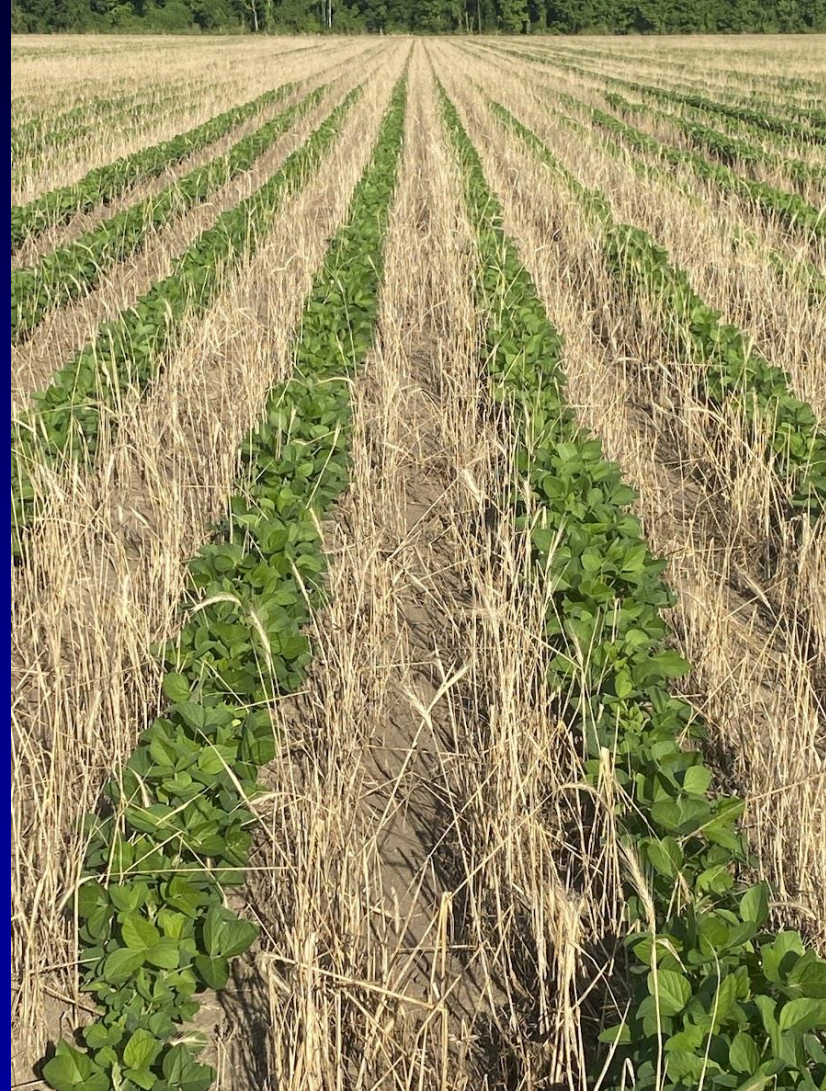
Moretti (2021)



Italian Ryegrass Injury 18 Days After Application with Paraquat



Winter Cover Crops & Italian Rye Grass



Case Study 2 – Summary

- **Herbicide Resistance in Italian Ryegrass**
- **Primary Pest Dictating Spring BD Treatments**
- **Fall Tillage (Late) can Delay Emergence**
- **Multiple Herbicide Apps. are Required (POT)**
- **Fall Apps. of Residual Herbicides Effective**
- **Winter Crops Suppress Italian Ryegrass**

Successful Management w/ Cover Crops + Fall Residual !!

Integrated
Crop Consulting, LLC



At the end of the day.....

