General Concepts Similar, Recognize Pest Diversity, Cropping Systems, and Interactions Across the U.S.
Discussion Topics

Plant Protection Characteristics: Weeds usually do not travel; Arthropods migrate (fly); and Plant Pathology is first cousin to “black magic”.

- Protocol Review and Agreement
- Location - Location – Location
- Field Trial Conduct
- Post-Trial Evaluation
Successful Field Trials Depend on:

Protocol Understanding and Expectations
Successful Field Trials Depend on:

- Protocol Understanding and Expectations
- Development of Industry Relationships
  - We Are Expendable
  - AgChem Industries Are Compressing
Successful Field Trials Depend on:

Protocol Understanding and Expectations

- Review For Feasibility – Forward Thinking
  - Site Selection
  - Supplies and Personnel
  - Multi-Year Obligations
  - What is a Standard?
  - Artificial Infestations
Successful Field Trials Depend on:

Protocol Understanding and Expectations

- No Misunderstandings; Ask Questions
  - Sales Support vs “Data” For Decisions
  - Information Requirements
  - Funding The Trial
EXPECTATIONS OF TRIAL CONDUCT

Component of Crop Production System IPM

Worst Case Scenario – Treatment Separation
Successful Field Trials Depend on:

Protocol Understanding and Expectations

- Contractual Arrangements For Funding
  - Handshake deals
  - E-Communication
Successful Field Trials Depend on:

 Protocol Understanding and Expectations

- Development Industry Relationships
- Review For Feasibility – Forward Thinking
- No Misunderstandings; Ask Questions
- Contractual Arrangements For Funding

“PLAN B”
Successful Field Trials Depend on:

Site Selection and Management
Successful Field Trials Depend on:

Site Selection and Management

- Crop / Pest Biology and Ecology

- Cotton
- Grain Sorghum
- Morningglory
- Bollworm
- Velvetleaf
- Bur Cucumber
- Soybean
- Field Corn
Successful Field Trials Depend on:

Site Selection and Management

- All Sites Are Not Created Equal (spatial)

Communicate With Local Industry
Successful Field Trials Depend on:

Site Selection and Management

- Manipulate the Trial Area
  - Temporal
  - Agronomic
Agronomic Practices
Post-Harvest Residue and Fall Vegetation Issues
Successful Field Trials Depend on:

Site Selection and Management

- Native vs Artificial Infestations
Successful Field Trials Depend on:

Site Selection and Management

- Crop / Pest Biology and Ecology
- All Sites Are Not Created Equal (spatial)
- Communicate With Local Industry
- Manipulate the Trial Area (Temporal / Agronomic)
- Native vs Artificial Infestations

If It Ain’t Happening, Go Mobile
Successful Field Trials Depend on:

In-Season Trial / Plot Maintenance
Proposed Exp. Design May Not Be Best

► RBD vs Others (Block on What)?

Successful Field Trials Depend on:

- In-Season Trial / Plot Maintenance
Successful Field Trials Depend on:

In-Season Trial / Plot Maintenance

● Manage Non-Targets Carefully
  ► Plan (Protocol)
Successful Field Trials Depend on:

In-Season Trial / Plot Maintenance

- Trained Warm Bodies Are Critical
  - Entomology Means “Count” Data
  - Summer Interns – (End of Season Fun)
Successful Field Trials Depend on:

In-Season Trial / Plot Maintenance

- Treatment Evaluation (KISS)
  - More Samples – Not Always Better
  - Timing is “Key” (Schedule vs Reactive)
  - Pest vs Plant Measurements
  - Time Requirements - Rating Trials
Successful Field Trials Depend on:

In-Season Trial / Plot Maintenance

- Data Management, Input, Archiving
  - Designated Lead
  - Hard Copies & Notes vs Electrons (EDT)
Successful Field Trials Depend on:

In-Season Trial / Plot Maintenance

- Mistakes Happen – Fix and Report (Sometimes)
  - Improper Mixing and Doses
  - Application Error (Multi-Sprays)
  - Sampler Inconsistency
  - Effects of Non-Target Management
  - Trial Termination (Too Early)
Successful Field Trials Depend on:

- In-Season Trial / Plot Maintenance
- Proposed Exp. Design May Not Be Best
- Manage Non-Targets Carefully
- Trained Warm Bodies Are Critical
- Treatment Evaluation (KISS)
- Data Management, Input, Archiving
- Mistakes Happen – Fix and Report

Some DATA Is Better Than No DATA!!
Successful Field Trials Depend on:

Honest Evaluation of Results Generated
Successful Field Trials Depend on:

- Honest Evaluation of Results Generated
- Control (+/-) Infestation Levels

Graph showing infestation levels over time with data points for CONTROL UTC and CONTROL TREATED.
Successful Field Trials Depend on:

- Honest Evaluation of Results Generated
- Significant Trial (Model) Effects
- Significant Treatment w/in Trial Effects

![Graph showing infestation level over time for control and treatment groups.]

- Control UTC
- Control Treated
- Treatment EXP
Successful Field Trials Depend on:

Honest Evaluation of Results Generated

- Biological Explanation of Results
  - Unexpected Outcomes

Treatment Effects (P=1.0)
Successful Field Trials Depend on:

- Honest Evaluation of Results Generated
- Photographs of Effects
Successful Field Trials Depend on:

- Honest Evaluation of Results Generated
- Tour of Field Trials
  - Highest Compliment
Successful Field Trials Depend on:

- Control (+/-) Infestation Levels
- Significant Trial (Model) Effects
- Significant Treatment Effects
- Biological Explanation of Results
- Photographs of Effects
- Tour of Field Trials

Goal: “To Always Improve”