What Industry Wants from Consultant Trials: Large and Small Test Plots

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Pesticide Discovery/Development

- Discovery:
  - Laboratory/Greenhouse/Small Field plots
- Optimization:
  - Greenhouse/Small field plots
- Development:
  - Small replicated plots
- Launch:
  - Larger replicated plots/demo plots
- Marketing:
  - On-farm grower demos

Intensity/cost of testing effort
Components development cycle

- Optimization
- Development
- Launch/Marketing

- Test Substance
  - Expensive
  - Economical

- Equipment
  - Research
  - Commercial

- Plot Size
  - Small
  - Large
Type and purpose of testing changes during the development process.

- Does the chemistry have any potential utility?
- Does it work in whole plants?
- Does it work in the field?
- Is it biologically competitive with other products?
- Is it economically competitive with other products?
- Is it environmentally compatible?
Progress over time

- 1950-1990 – most anything would suffice, run a test submit data, industry accepted it.
- 1990s – shift to cost effectiveness in the development process.
- Specific research needs identified:
  - Method of submission moved from paper to electronic
  - Use of data across regions to increase utility of data collected over time and space.
- Data analysis made giant step changes:
  - Statistics and data mining added value to the data.
- Regional programs have yielded to global projects.
“Data Quality” is critical today

- How is quality defined?
  - Proper trial conduct:
    - Crop, pest as desired
    - Use rates as desired
    - Product comparisons as desired
  - Data reporting as desired:
    - Proper format (standard codes, units, scales)
    - Timely submission

- Swift Data flow essential to speed decision making which decreases the time from discovery to market introduction around the world.

- Regulatory Harmonization has increased the incentive to follow global development programs, increasing importance.
How do you know what is desired?

- PROTOCOL or Study Plan.
  - Read it.
  - Study it.
  - Question it.
  - Suggest, upgrades.
  - Confirm the final intent of the study.
  - Confirm that you know what is desired.
Can you do the work?

- Do you have the equipment, the season, the crop, the pest, the staff, and the interest to do the work entailed by the project?
- Can you meet the timeline?
- Can you provide the report at the time it is indicated?
- Can you be business effective in the conduct of the study?
- If the answer to each of these question is yes, then ask, “Do you really want to do this work?”
Product Attribute Characterization

- Residual Insecticidal Potency
- Active on large larvae
- UV Stable
- Surfactants???
- Tank Stability
- Time To Kill
- Plant Protection Resistance
- Contact vs Ingestion
- Volume and Conc
- Volume and Conc
- Drying Time
- Insect Spectrum

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Successful Process Flow

Study Contracting → Study Design → Communication Is Key → Study Conduct → Data Analysis → Report preparation → Report Submission
Overall Concept

- Good trial design, implementation, conduct, and reporting will lead to uniform data.
- Uniform data leads to more powerful and useful data analysis.
- Successful data analysis effectively converts data into high quality information/knowledge.
- High quality knowledge leads to useful product labels and successful pest control.
Typical Problems

- Common problems observed:
  - Missed application timing.
  - Missed evaluation timing, or wrong evaluation intervals.
  - Inappropriate or atypical rating system.
  - Damage attributed to wrong pest.
  - Not including the designated standard treatments.

- Result: The data loses value, cannot be compared or summarized with other data across larger geographical regions.
Things that are not helpful.

- Late communication of problems.
- Late submission of reports.
- Snowball reports – not providing what was requested, but sending a lot of other information in the report.
What sponsors need from Cooperators today.

- Good project management skills.
- Able to routinely conduct trials which yield high quality data.
- Technically proficient with the desired software tools for report preparation.
- Thorough reports are submitted on time.
- Feedback of the process and the trial.
Summary

- Follow the protocol.
- Discuss any deviations or unexpected observations with the sponsor.
- Every experiment can be instructive if we have close enough observation to know what went according to plan and what did not.
- Communicate, communicate, communicate!!
Questions??