



NATIONAL EDUCATION
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Trials Saved, Lessons Learned When Things Go Awry

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Overview of session

- ✓ Tips learned by FRDs over the years
- ✓ How the Study director can assist the FRD





Wild life!

Weather or not

Crop size: Minnie vs macro

(it isn't Minnie Mouse)

Study Director is an important resource when there is a problem.

Wildlife: Here Birdie, Birdie



How do you handle damage to your crop caused by birds?



Wildlife: Here Birdie, Birdie

How do you handle damage to your crop caused by birds?



Not so Dear Deer



Wildlife: masked bandits





Weather or not, here it comes



“Neither rain, nor snow, nor gloom of night stays the FRD in completion of their appointed tasks.”

- U.S. Postal Service
with a slight modification

Weather challenges: water-too much or too little

Always plant a larger plot than you think you need



Racing the Rain



Limas everywhere!

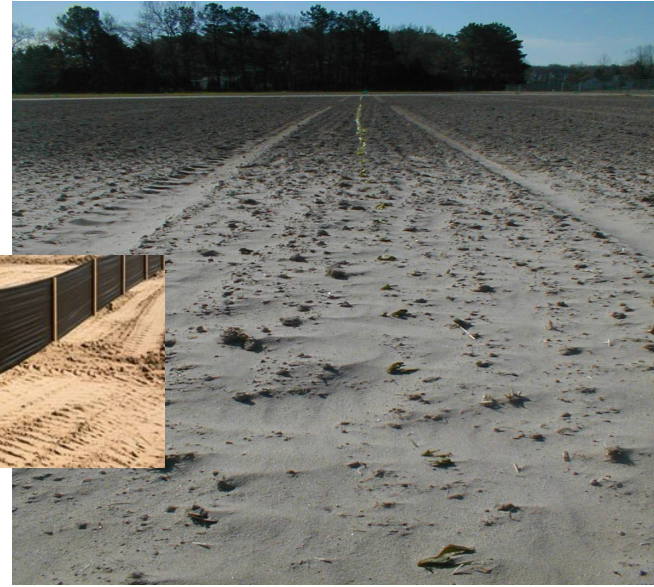
Success!

Water Water Everywhere, Not a Drop to Drink!

Nurse Tank to the Rescue



Riding the Storm Out



Disease challenges:

Always plant a larger plot than you think you need



Lessons learned:

- Stay on top of maintenance sprays
- Remember to scout for diseases
- Harvest date may change from year to year based on weather

Crop loss due to brown rot

Down to the Wireworm - No Time to Waste!



Healthy plant

1 day later

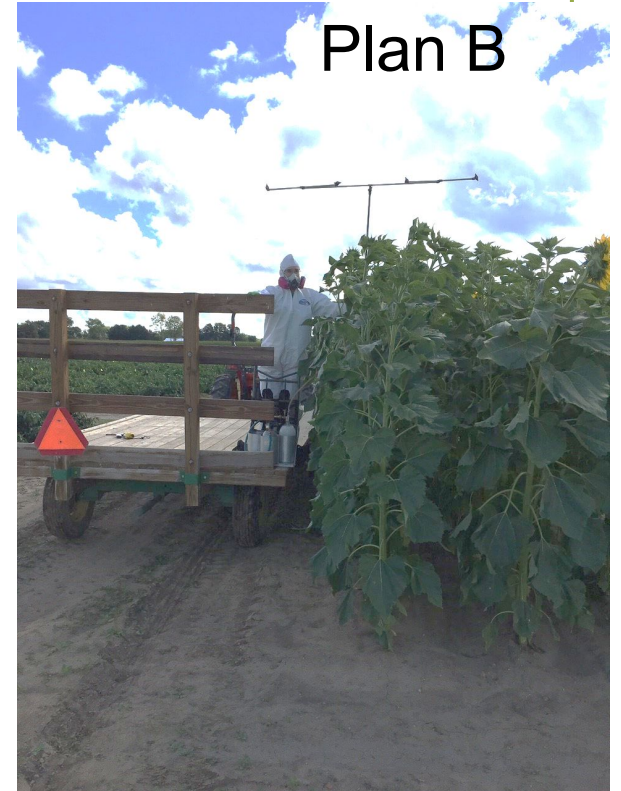
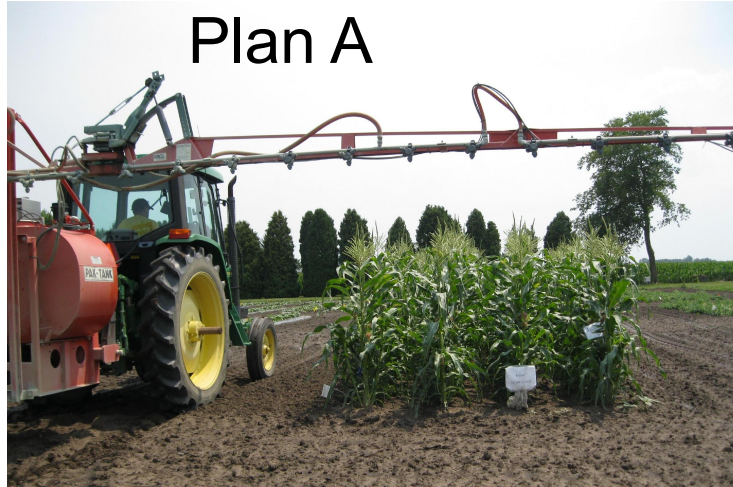
Dig in and get to the Root of the Problem



Early Bird gets the Samples



When crops grow too tall for application equipment:





14 foot offset
overhead
boom. That's
Jane in the
background.

Cabbage: large sample size

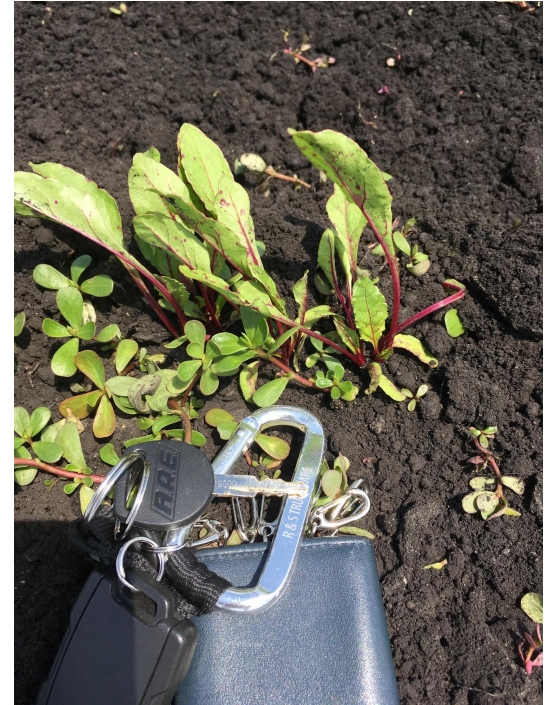
- Heads are large
- Impossible to put 2 opposite quarters + wrapper leaves from 12 plants in 1 bag
- SD amended the protocol to allow 2 opposite eighths to be retained.
- Weight was to be <8 pounds.
- My samples ranged from 13.5 to 16 pounds using 2 eighths/head



Lesson learned: make sure protocol states eighths are allowed when draft protocols are available for review/comments.

Plot size and baby greens

Always plant a larger plot than you think you need



New crop: Pennycress

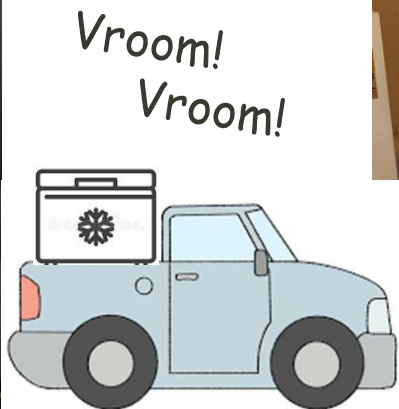
Lessons learned:
plant dates;
plot size;
harvest ideas



The unexpected will happen sometime

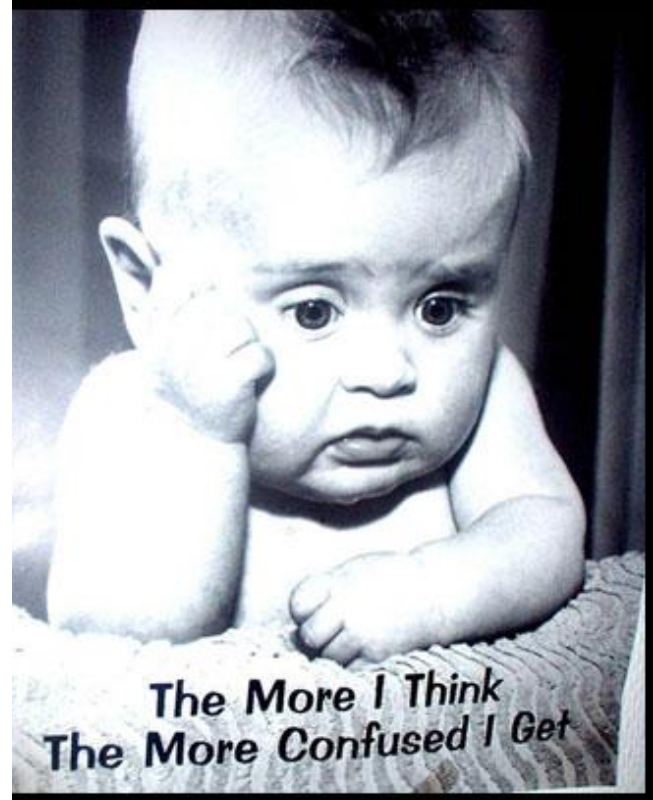


Thunder and Lightning - Very Very Frightening !



Uh oh moments: (When the full CO2 tank

**is discovered to
be empty after
traveling
several hours to
a field site.**



eFDB – lesson learned



- Location allowed me to use my iphone as a hotspot.
- Inlife inspection had a flight to catch
- Additional issues:
- ipad locked up due to error in password to unlock
- Wind was to increase within an hour to 20-25 mph

Lesson learned: Have a downloaded paper version available to use



**Be on the
lookout for
new
equipment**



**UH – OH
moments**





**'You have reached IR4
headquarters.'**

**How may I help you?
-Study Director**



Before we begin, a disclaimer...

Nothing in this presentation is meant as an endorsement or permission to do these things. These are intended to provide insight into how a Study Director tries to resolve issues after things have gone wrong.

Always reach out to the Study Director in these situations, the earlier the better.

Common Issues Encountered

- Over/underapplications
- Missed RTI/PHI timings
- Undersized samples
- Phytotoxicity
- Problems with decline trials

Over and Underapplications



Over and Underapplications

- Must be able to defend that these samples are not substantially different from samples in trials that did not deviate from the protocol guidelines
- Overapplication generally “better” than underapplication
 - Overapplications will cover lower use rates
- Acceptability depends on use pattern
 - Which application went on incorrectly?
 - Are we expecting residues?

Missed RTI/PHI Timings



Missed RTI/PHI Timings

- Typically results from FRD error or inclement weather
- Could result in higher/lower residues
- Last application in a trial is the primary driver of residues
- Longer PHI = greater tolerance for variability in harvest timing
 - Reflected in expanded \pm day ranges in trials with longer PHIs

Undersized Samples



Undersized Samples

- Can be the result of failure of plants to develop (often due to adverse weather), aggressive harvest timings, etc.
- Crop sampled must be representative of what would realistically be harvested commercially
- Samples must be representative of the plot
 - Impartially sampled, harvesting less than 50% of the plot
 - Necessary to control bias
- Lab must have enough material to analyze

Phytotoxicity



Phytotoxicity

- More common with herbicides than with insecticides or fungicides
- **ALWAYS** inform the study director as soon as possible if crop injury is observed
 - Information is relayed to the registrant for input
- Some crop injury may be tolerated, handled on a case-by-case basis
 - Damage due to adjuvants, damage to non-commercially relevant parts of plants, etc
- Crop injury may also indicate issues with the use pattern

Problems with Decline Trials



Problems with Decline Trials

- Several “absolute” requirements for decline trials
 - Need at least four sampling timepoints, one of which must be the requested PHI
 - At least one timepoint before the requested PHI (except when the requested PHI is 0 days) and at least one after
 - Two samples at requested PHI, at least one at all other timepoints
 - EPA recommends two at each timepoint
- In cases of small plots, last timepoint or one sample at timepoint other than the requested PHI can be “sacrificed” to get the samples we need
 - Still must adhere to rules above

Unique Situations

Situations where test substance is used as a maintenance chemical

- Sometimes unavoidable (treated seed, transplants treated at commercial greenhouse, etc.)
- Effect on study varies; seed treatment and a long PHI may be tolerable, whereas triazoles may kill the trial

To Reiterate...

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ALWAYS reach out to the Study Director for guidance in these situations, the earlier the better.

Thank you!

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