Wrapping up in the Field…

Sampling and Notebook Tips for Successful IR-4 Trials

Oct 2018: Agenda

What we'll cover today:

- Sampling descriptions
- Transporting test substances/containers
- Calibration calculations
- Deviations v. amendments
- Marking up your protocol
- When to line out blanks
- Mist blowers for airblast applications
- Soil temperatures
- Buffer zones

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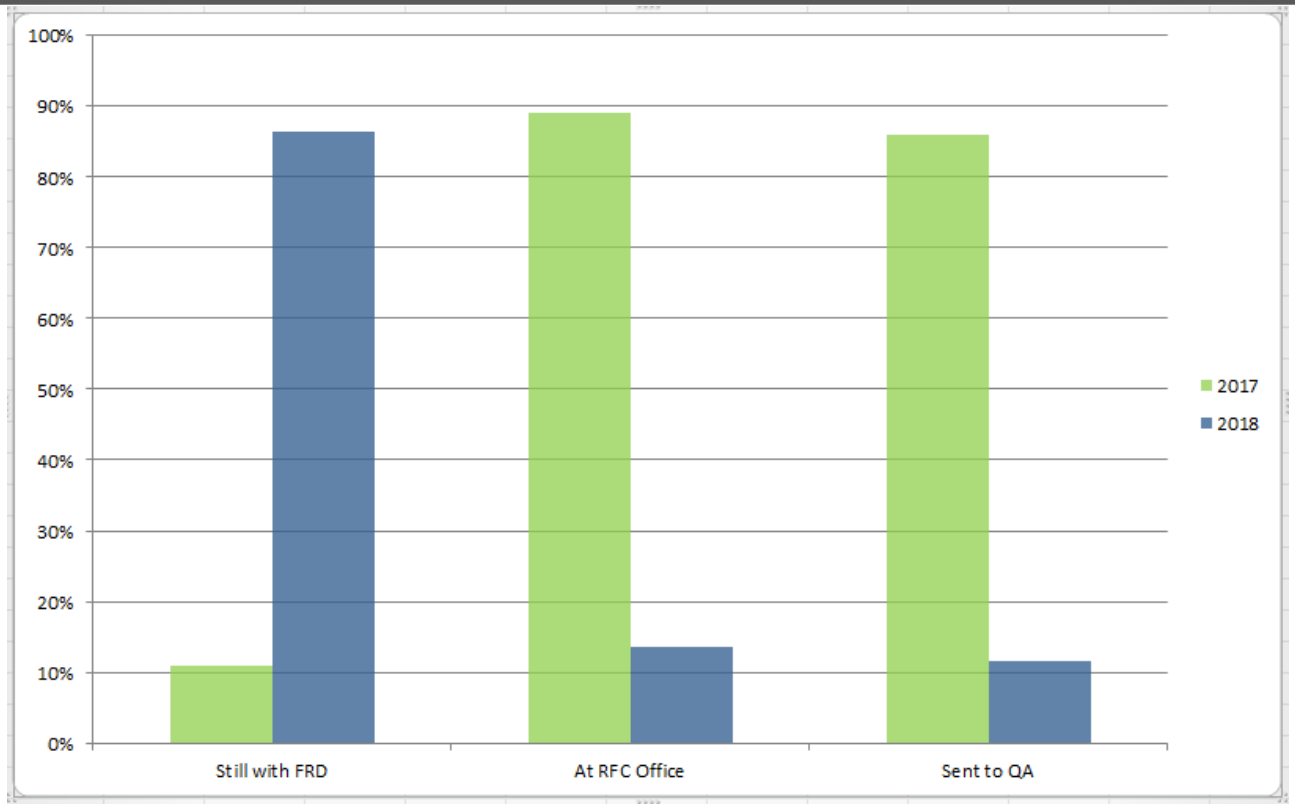
Field Data Notebook Status in the Western Region



2017

- 140/160 received by RFC Office - 89%
- 135/160 off to QA - 86%

2018

- 20/147 received by RFC Office - 14%
- 17/147 off to QA - 12%

MH

Sampling Reminders

Check for protocol amendments:

- Sample reductions/modifications?
  - Allowed?
  - Required?
- Bags & labels
  - Be careful with multiple studies
  - Tie, don’t knot…

Sampling Descriptions

Writing good harvesting/sampling descriptions

- How were plants/fruits selected for harvesting?
  - Be specific and give numbers if applicable to address protocol
    - 12 separate areas of plot
    - Not including plot ends

Sampling Descriptions

- What equipment was used?
  - Don’t forget clippers, knives, cutting boards
- How/When was equipment cleaned?

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MPT

Sampling Equipment

- Rice Harvesting at UC Davis




MPT

Sampling Tools

- Separate Sets of harvesting tools?

Sampling Descriptions

- If threshed, was whole plot threshed?
  - What sections if not?
- How was commodity reduced?
- Which portions were retained (opposite quarters, eighths, etc.)

- Were coolers used to transport samples?
- How were untreated and treated kept separate?

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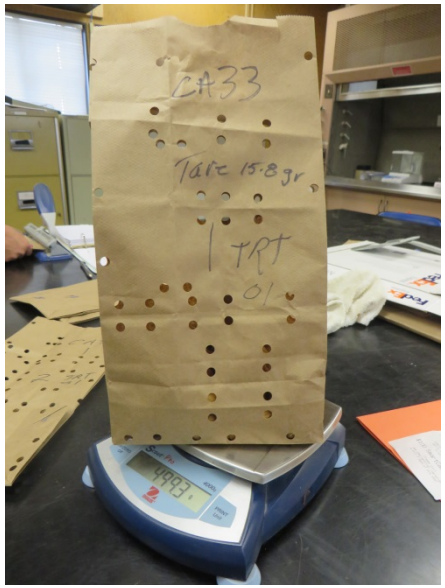
Sampling Descriptions

Representative Samples

- When using a hop picker…

Sampling Descriptions

- If drying the commodity
  - Drying equipment used (if any)
  - Temperatures during drying
  - Duration of drying
  - Verifying moisture content (if required)



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Deviations v. Amendments

What's a deviation?
What's an amendment?

- Amendment is made by the Study Director
    - Changes the protocol
    - Generally before it occurs
- Deviation is anything done differently from what the protocol specifies
    - Generally submitted after it occurs but can be before

Even if you get Study Director approval, it's still a deviation…

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To Line or Not to Line?

When to line out blank spaces in the notebook:

- >2 lines blank
  - Unused portions of tables or lined areas
  - Blank areas after written descriptions, calculations, etc.
- Form or section of form not needed

Output Run Number		1	2	3	Total (Required)	Average (Optional)
Pressure (psi)		30	30	30		
Time (seconds)		30.08	29.99	30.11	90.18	30.06
Nozzle/Hopper Outlet Number Along Boom (These numbers should match those shown in the equipment diagram in 6.B)	1	300	300	300	900	300
	2	305	300	305	910	303.3
	3	300	295	300	895	298.3
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
Total		905	895	905	2705	901.7
Output per Nozzle or Outlet		301.7	298.3	301.7	901.7	300.6
Output per Second		30.09	29.84	30.06	89.99	30.00

PART 2

If the containers will remain in the possession of the Field Research Director, indicate location where the containers are stored.

STORING CONTAINERS AT: LICARE Bldg 117 Room 11 IR-4 Locker 6/11-16-16

PART 3

If containers were not handled by any of the above methods briefly explain how they were handled.

6/11-16-16

ABOVE DATA ENTERED BY: Kevin Shirley *DATE:* 11-16-16

PART 4 PAGE 8 Trial Year 2016

SN

To Line or Not to Line?

Lineout not needed for:

- Conditional prompts if the answer requires no further explanation
- Blank space on printed pages (such as emails, printed labels, etc.)

WAS THE TEST SUBSTANCE HELD TEMPORARILY* IN ANOTHER LOCATION PRIOR TO TRANSFER TO ITS LONG-TERM STORAGE LOCATION DURING THE FIELD TRIAL? YES___ NO ✓ *Temperature monitoring should begin within 2 days of receipt of the test substance, regardless of where it is held or stored.*	
IF YES, ENTER LOCATION	
DATES	ESTIMATED TEMPERATURE prior to monitoring

ABOVE DATA ENTERED BY: _____ NL *DATE:* 11-30-15

PART 4 PAGE 1 Trial Year 2016

Output Calibration Calculations

Part 6C.2 Boom Output v. Nozzle Output

Average nozzle output & dividing it by the time

Total	852	852
Output per Nozzle or Outlet	213	213
Boom Output (mL/Second)	13.93	13.94

Re-label as Nozzle Output

Total output & dividing by the time

Total	1390	1410
Output per Nozzle or Outlet	347.50	352.50
Boom Output (mL/Second)	45.77	46.53

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Canadian Trials: Calibrations

When is a full calibration required?

At a minimum, for multiple applications performed on the same day using the same equipment and application parameters, a single recheck of the output and speed is required. A single output check must be conducted to confirm consistent delivery (± 5% of the last complete calibration) just prior to subsequent applications. This is considered a **calibration recheck**. Note: a calibration recheck is only acceptable if application parameters or equipment components have not changed. If the **calibration recheck** results in an output that differs from the mean output of the **complete calibration** by more than ± 5%, the equipment must be completely re-calibrated.

Full Calibration	Recheck
When equipment has not been calibrated that day	Applications made on the same day, same equipment, same parameters

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Certificate of Analysis

Not All CoA's are GLP characterized

The CoA needs to say it was GLP characterized and reference 40 CFR 160 or some other GLPs.

FMC

Bifenthrin / Safflower
ID No. 11068.17-CA35
Ennes

FMC Corporation
701 PrincetonSouth Corporate Center
Ewing, NJ 08628-3432, USA
609.963.6200
www.fmc.com

GLP Certificate of Analysis

Study Number:	2017TSC-0003096
Product:	Brigade 2 EC
Sample Reference (Lot No.):	PL17-0081
Manufacturing Lot No.:	M1403-003 (FMC - Middleport)
Manufacturing Date:	Not Available
Physical Description:	Liquid
Date of Initial Analysis:	March 10, 2017
Active Ingredients:	Bifenthrin
% Concentration:	24.9% w/w Bifenthrin
Expiration:	March 10, 2019
Store:	Room Temperature

Dk 3-30-17

Good Laboratory Practice Compliance Statement

The purity determination of this material was conducted in compliance with the Good Laboratory Practice Standards as published in 40 CFR 160, where applicable, to an analytical laboratory.

Study Director: Coby Crane — Coby Crane — Date: 13Mar2017

Manager: Frank J. Zawacki — Frank J. Zawacki, PhD — Date: 13 Mar 2017

The raw data generated during analysis have been reviewed by the Quality Assurance Unit. The raw data confirm the purity as listed above.

Jane Brown — Date: 14 Mar 2017

Jane Brown
Quality Assurance

Page: 4 15

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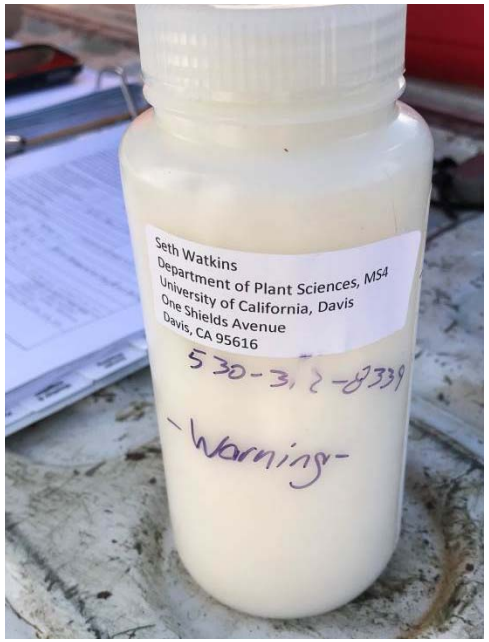
Transporting Test Substances

Secondary/Service Containers – CA Required Labeling

- Include contact information AND the signal word from the label (caution, warning, danger)



New requirement in CA for labeling tank mixes when transporting

- Same reqs as secondary containers

CA requirement/good idea for others

- Carry copy of the label and SDS with the test substance

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Details, details, details

To code or not to code

That is the question…

It's GLPitis…

Speaking of Amendments…

TIP: Mark up your protocol in your notebook when you receive an amendment

- No need to error code or date/initial the changes
  It's not considered data. And very helpful !

- We've had near misses and trial cancelations because FRD didn't remember application rate had changed
  - Marking up the protocol may have prevented this

15. APPLICATION TREATMENTS AND TIMING: SEE CHANGE #2 1 5-24-12 WS 5-1-12

Trt#	Treatment	Target Rate of active ingredient	Target Rate of formulated product*	Application Type	Spray Volume Range**
01	Untreated	Not Applicable	Not Applicable	Not Applicable	Not Applicable
02	METRIBUZIN	0.67 lbs ai/acre 0.5 lbs A (752 grams ai/hectare) + 0.67 lbs ai/acre (752 grams ai/hectare)	405.2 grams/acre (1003 grams/hectare) + 405.2 grams/acre (1003 grams/hectare)	Pre-emergence, broadcast + Post-emergence, broadcast	5-40 GPA (47-374 L/Ha)

*The nominal formulation concentration of the test substance will be used in calculating application rates (see Section 13 for the nominal concentration).
**GPA=gallons per acre, L/Ha=liters per hectare

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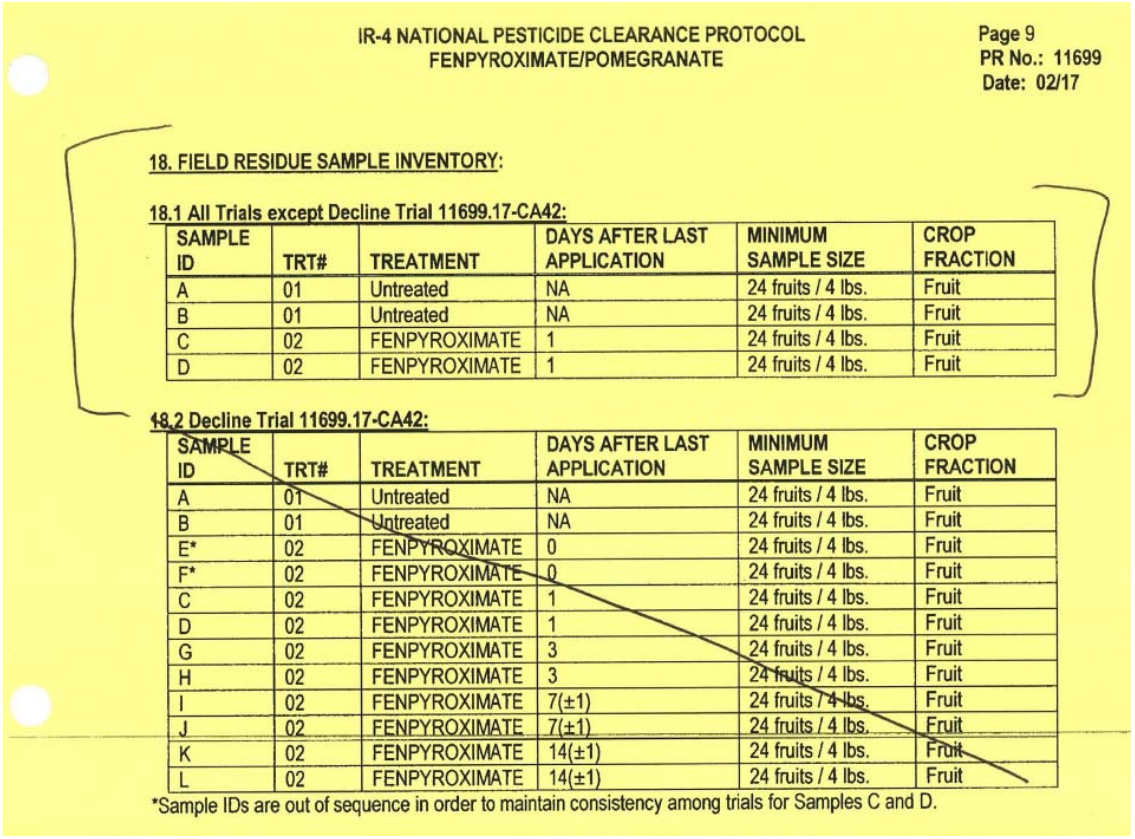
Marking Up Protocols

Line-out sections that don't apply, markup applicable



IR-4 NATIONAL PESTICIDE CLEARANCE PROTOCOL
FENPYROXIMATE/POMEGRANATE

Page 9
PR No.: 11699
Date: 02/17

18. FIELD RESIDUE SAMPLE INVENTORY:

18.1 All Trials except Decline Trial 11699.17-CA42:

SAMPLE ID	TRT#	TREATMENT	DAYS AFTER LAST APPLICATION	MINIMUM SAMPLE SIZE	CROP FRACTION
A	01	Untreated	NA	24 fruits / 4 lbs.	Fruit
B	01	Untreated	NA	24 fruits / 4 lbs.	Fruit
C	02	FENPYROXIMATE	1	24 fruits / 4 lbs.	Fruit
D	02	FENPYROXIMATE	1	24 fruits / 4 lbs.	Fruit

18.2 Decline Trial 11699.17-CA42:

SAMPLE ID	TRT#	TREATMENT	DAYS AFTER LAST APPLICATION	MINIMUM SAMPLE SIZE	CROP FRACTION
A	01	Untreated	NA	24 fruits / 4 lbs.	Fruit
B	01	Untreated	NA	24 fruits / 4 lbs.	Fruit
E*	02	FENPYROXIMATE	0	24 fruits / 4 lbs.	Fruit
F*	02	FENPYROXIMATE	0	24 fruits / 4 lbs.	Fruit
C	02	FENPYROXIMATE	1	24 fruits / 4 lbs.	Fruit
D	02	FENPYROXIMATE	1	24 fruits / 4 lbs.	Fruit
G	02	FENPYROXIMATE	3	24 fruits / 4 lbs.	Fruit
H	02	FENPYROXIMATE	3	24 fruits / 4 lbs.	Fruit
I	02	FENPYROXIMATE	7(±1)	24 fruits / 4 lbs.	Fruit
J	02	FENPYROXIMATE	7(±1)	24 fruits / 4 lbs.	Fruit
K	02	FENPYROXIMATE	14(±1)	24 fruits / 4 lbs.	Fruit
L	02	FENPYROXIMATE	14(±1)	24 fruits / 4 lbs.	Fruit

*Sample IDs are out of sequence in order to maintain consistency among trials for Samples C and D.

Marking Up Protocols

Highlight Important Points

15. APPLICATION TREATMENTS AND TIMING:

Trt#	Treatment	Target Rate of active ingredient	Target Rate of formulated product*	Application Type	Spray Volume Range**
01	Untreated	Not Applicable	Not Applicable	Not Applicable	Not Applicable
02	PROMETRYN	1.6 lbs ai / acre	1514 ml/acre	Broadcast	Minimum of 20 GPA
03	PROMETRYN	1.6 lbs ai / acre	1514 ml/acre	Broadcast	Minimum of 20 GPA

*The nominal formulation concentration of the test substance will be used in calculating application rates (see Section 13 for the nominal concentration).

**GPA=gallons per acre

All trials: For treatments 02 and 03, make one broadcast application to bare ground. Treatments 02 and 03 do not have to be made on the same date.

The application for Treatment 02 will be made 60 (+/-3) days before planting peppers

The application for Treatment 03 will be made 90 (+/-3) days before planting peppers. (Please see Sections 10 and 12 for application timing requirements.)

If it appears that phytotoxicity has resulted from applications made in this trial, contact the Study Director. If possible, take one or more photographs and send them to the Study Director via email to facilitate the evaluation of crop/ test substance effects.

NOTE: Each trial requires CROP PHYTOTOXICITY DATA on pepper:

Please take phytotoxicity ratings on all plots during trial conduct using the parameters as follows:

Visible crop injury ratings are acceptable. Use a rating scale of 0 (no injury) to 100% (total injury).

Observe the pepper crop at **early season**, **mid-season** and **prior to harvest.** **If phytotoxicity is observed take phytotoxicity ratings. Also record if there is no phytotoxicity.**

Specify the type of injury (stem and foliage burn, chlorosis, leaf cupping or twisting, etc.)

Compliance with GLPs is not required for the collection of data associated with crop phytotoxicity.

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Mist Blowers for Airblast Applications

Output may not be consistent

- The pressure can vary depending on the angle of the nozzle
- Resulting in significantly different output from the calibrated amount

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SOLO

HI: Stumped v. "Un-Stumped" Coffee

Output Run Number		1	2	3	Total (Required)	Average (Optional)
Pressure (psi)		NA	NA	NA		
Time (seconds)		120	120	120	360	120
Left side* only	Initial volume	6000 ml	6000 ml	6000 ml	18000 ml	6000 ml
	Final volume	920 ml	940 ml	900 ml	2760 ml	920 ml
	Volume discharged	5080 ml	5060 ml	5100 ml	15240 ml	5080 ml
Right side* only	Initial volume	*	*	*	*	*
	Final volume	*	*	*	*	*
	Volume discharged	*	*	*	*	*
Both sides at the same time	Initial volume	*	*	*	*	*
	Final volume	*	*	*	*	*
	Volume discharged	*	*	*	*	*
Total		5080	5060	5100	15240	5080
Output per Second		42.33	42.16	42.50	42.33	42.33

Stumped = 6'-8'

Un-Stumped = 10'-12'

Output Run Number		1	2	3	Total (Required)	Average (Optional)
Pressure (psi)		NA	NA	NA		
Time (seconds)		120	120	120	360	120
Left side* only	Initial volume	6000 ml	6000 ml	6000 ml	18000 ml	6000 ml
	Final volume	1300 ml	1200 ml	1280 ml	3780 ml	1260 ml
	Volume discharged	4700 ml	4800 ml	4720 ml	14220 ml	4740 ml
Right side* only	Initial volume	*	*	*	*	*
	Final volume	*	*	*	*	*
	Volume discharged	*	*	*	*	*
Both sides at the same time	Initial volume	*	*	*	*	*
	Final volume	*	*	*	*	*
	Volume discharged	*	*	*	*	*
Total		4700	4800	4720	14220	4740
Output per Second		39.16	40.00	39.33	39.50	39.50

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Mist Blowers

Measureback

- If using a mistblower
  - Be sure to measure the amount left in the tank to confirm the output.
  - The official post application verification will still be based on the calibration. This is another confirmation.

Next Training Session

DATE: January 29, 2019
TIME: 11:00 am – 12:00 pm PDT
AUDIENCE: All

Topics: TBD

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Thank you for attending

Training documentation will be provided

Concerns, Questions, Feedback

Mika Tolson, Stephen Flanagan and Michael Horak
(530) 752-7635, 752-7634
wrfield@ucdavis.edu

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