IR-4 Project

NATIONAL EDUCATION CONFERENCE February 3-5, 2026

ASR Preparation

Using Templates, Databases, and Software Shortcuts for Efficient Report Writing

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University of California, Davis

ASR Prep

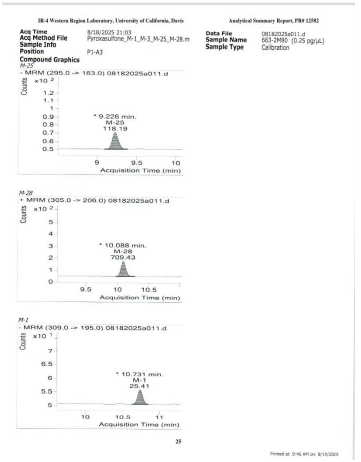
- Keep It Simple
- Define Your Workflow
- Work Smarter, Not Harder
- Work Together

Keep It Simple

- **Keep Protocol Requirements in Mind**

e.g. Minimum Chromatogram requirements:

standard curve,
3 untreated,
3 misc recovery,
10 treated samples.



33. LABORATORY RESEARCH REPORT:

The analytical summary report sent to IR-4 HQ shall contain, but not be limited to:

33.01 - Applicable method validation data

33.02 - Applicable storage stability data

33.03 - Residue levels for control samples, treated samples, and concurrent fortified recoveries

Recoveries and residues with extraction/analysis date are in the tables. The rest of the data are found in Data Summary scans as an attachment.

33.04 - Complete copy of the analytical Working Method

33.05 - Any modifications or deviations from the protocol and/or Working Method

Narrative of working method is within the ASR. Not the actual scanned working method document.

33.06 - A minimum of 10 representative chromatograms of treated samples (if fewer than 10 submit all), a minimum of three chromatograms each of control and fortified control samples, chromatograms (one of each concentration) for at least one set of calibration standards for each compound analyzed, and any chromatograms of samples with unusual or inconsistent results

Usually do the minimum number unless necessary to show unusual/atypical results.

33.07 - Summary of quantitative data associated with samples and spike recovery samples should be provided (e.g. peak heights, injection volumes, sample sizes, final volumes, etc.)

Scans of the Data Summary Sheets

33.08 - Clearly presented example calculations or statistical evaluations

33.09 - Discussion of results (including purpose of method modifications, sample storage conditions, etc.)

These are found throughout the ASR narrative. All except discussion of results and sample receipt/processing are copied from the working method.

33.10 - Summary data associated with calibration standards (dilution and use records, calibration curves, etc.)

Brief description of standard preparation is included in the ASR narrative. Details (dates and exact measurements) are shown in scans of the Standard Preparation Forms.

IR-4 Project

Keep It Simple

- **We do not include:**
  - × *Field Trial information*
    - *FRD/RFC Info (name, location, etc.)*
    - *Trial Details (small fruited vs. large fruited tomatoes)*
  - × *Actual Reference Method*
  - × *Detailed Chromatogram Index*

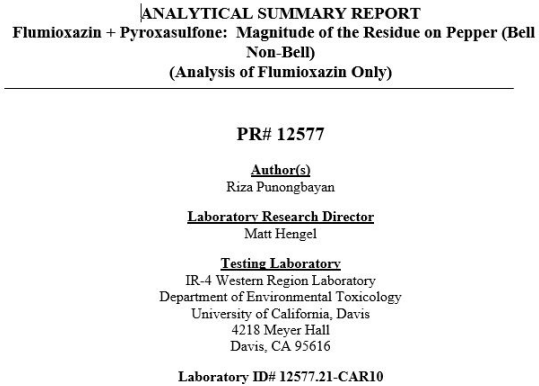
Can you think of something in your lab's ASR that might not need to be there?

APPENDIX A: INDEX TO REPRESENTATIVE CHROMATOGRAMS
Study # AAFC19-019R
Pyridate/Mint

Keep It Simple

- **Split Projects with 2 Compounds into 2 ASRs**

e.g. PR 12577, Flumioxazin + Pyroxasulfone on Pepper



ANALYTICAL SUMMARY REPORT
Flumioxazin + Pyroxasulfone: Magnitude of the Residue on Pepper (Bell & Non-Bell)
(Analysis of Flumioxazin Only)

PR# 12577

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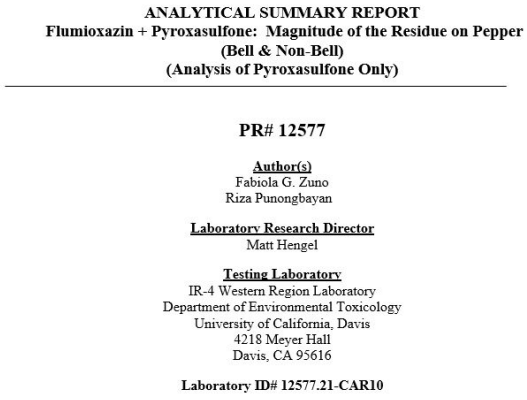
Laboratory ID# 12577.21-CAR10



ANALYTICAL SUMMARY REPORT
Flumioxazin + Pyroxasulfone: Magnitude of the Residue on Pepper (Bell & Non-Bell)
(Analysis of Pyroxasulfone Only)

PR# 12577

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Define your Workflow

- Consistency leads to productivity
- Reliable
- Predictable
- Minimize errors and delays

“We are what we repeatedly do. Excellence is not an act, but a habit” –Aristotle

Success isn’t always about greatness. It’s about consistency, Consistent hard work leads to success.

UC Davis Lab Workflow

- Protocol is received
- Data entered into our database
- Project is assigned and analysis begins
- Working Methods and Data Summary tables are created in the same format for consistency and easy integration into the ASR.
- When all the work that can be done for the moment is complete, We decide who will prepare the ASR
  - Tey (20%) or Riza (80%)
  - Depends on workload or familiarity with the project.
  - Our expertise makes things more efficient.

UC Davis Lab Workflow

3 Steps of ASR Prep:

Step 1: Setup the ASR. Write the narratives that include basic information, sample receipt and sample processing description, standard preparation description, preparation of storage stability description, analytical procedure, calculations, instrument parameters)

Step 2: Enter data into tables: Sample inventory, recoveries, residue data

Step 3: Scan chromatograms, data summaries standard forms. Update table of contents, paginate.

UC Davis Lab Workflow

Best Case Scenario for ASR Prep:

- All trials are in, analysis complete.
  - Depending on complexity, Steps 1, 2, and 3 can be completed in a few hours or a couple of days.

UC Davis Lab Workflow

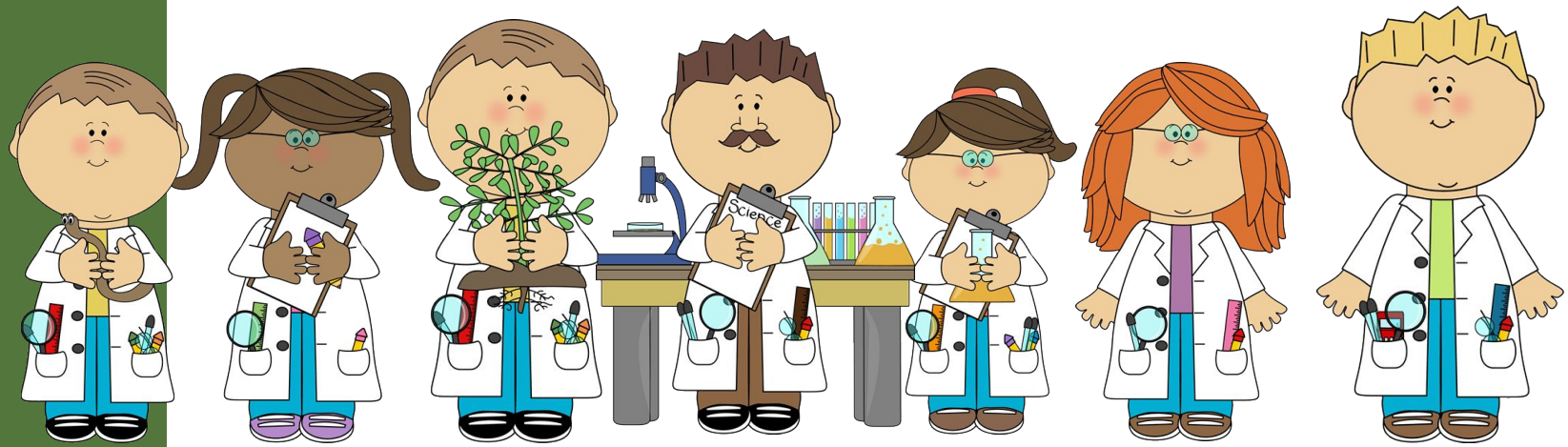
Not-the-Best Case Scenario for ASR Prep:

- Not all trials are in or we have to wait for storage stability.
  - Complete Step 1 when method validation and all in-house trials are analyzed.
  - Complete Step 2 when analysis of all field trials is complete. We may have to wait even longer for storage stability. Stopping and starting is not always the most efficient.
  - Complete Step 3 after all analysis, including storage stability, is complete.

UC Davis Lab Workflow

Once Step 3 has been completed:

- QC. The analyst typically QC's the ASRs for their own projects. They are familiar with the method and any issues or problems that occurred.



UC Davis Lab Workflow

- Submit to QA

- Respond to QA findings. The person responsible typically responds to their own findings unless they are unavailable. After QA looks over the responses and are satisfied with any corrections/changes, the LRD submits the responses to eQA.
- Receive page 3 (QA statement) from QA.
- Sign, update report date, and prepare the entire project for archive, Tey will archive and ship the original ASR to HQ.

UC Davis Lab Workflow

There are always exceptions!

- Prepare the ASR for another lab (e.g. Flonicamid projects for MSU Lab)
- Study Director may request extra information or tables to be added to the ASR so check with the SD!
- Storage Stability may require a separate ASR to meet timelines

Work Smarter, Not Harder

- **Template**
  - The template includes scenarios, wording, table formats for different situations, notes, and reminders.
  - Templates are self-explanatory, so if necessary others can write their own reports.

Current Template

Before

ANALYTICAL SUMMARY REPORT
Compound1: Magnitude of the Residue on Commodity/crop

PR# PRNumber

Author(s)

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Davis, CA 95616

Laboratory ID# PRNumberYear1-LABORATORYID

Find/Replace

After

ANALYTICAL SUMMARY REPORT
Flumioxazin + Pyroxasulfone: Magnitude of the Residue on Pepper (Bell & Non-Bell)
(Analysis of Flumioxazin Only)

PR# 12577

Author(s)
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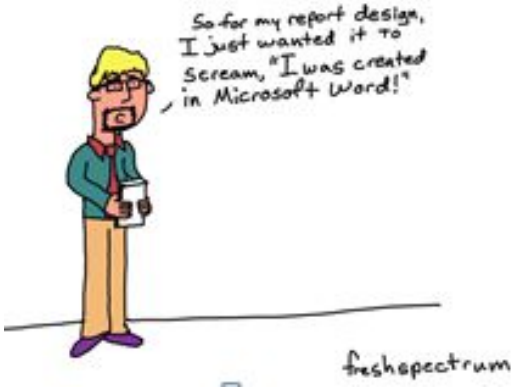


II. **Sample Inventory/History**

Upon arrival at the laboratory, samples were opened, inspected, and checked against the enclosed shipping form. Unique laboratory sample ID numbers were assigned as listed in Table II.1. Samples were stored frozen. Raw Agricultural Commodity (RAC) samples were processed with dry ice in a countertop Hobart food chopper/Robot Coupe Food chopper. After the entire sample was chopped, a portion was placed in labeled glass pint jars and surplus was put back into the sample bag. Or: After the entire sample was chopped, a portion was sifted through a #6 wire mesh screen into glass pint jars and surplus was put back into the sample bag. Glass jars and sample bags were returned to the freezer and stored frozen (generally –18˚C).

For prechopping by squeezing: Before adding the sample to the food chopper, it was broken up into smaller pieces by squeezing the sample bag while the sample was still inside. The contents of the bag were then transferred to the food chopper.

Hobart A and Robotcoupe (some samples with Hobart, some with robotcoupe):
Raw Agricultural Commodity (RAC) samples were processed with dry ice in either a floor model Hobart food chopper or a Robot Coupe food chopper. After the entire sample was chopped, a portion was placed in labeled glass pint jars and surplus was put back into the sample bag. Samples chopped with the Hobart food chopper were sifted through a #6 wire mesh screen into glass pint jars and surplus was put back into the sample bag. . Glass jars and sample bags were returned to the freezer and stored frozen (generally -20°C).

FOR OIL SAMPLES
oil was stored frozen and brought to room temperature before subsampling and/or analysis.

Table VII.3.1: Residue Data Results, Compound1

Trial ID	Crop Fraction	Field Sample ID	Lab Sample ID	Sampling Date	Extraction Date	Analysis Date[1]	Storage (Days) Treated Samples[2]	Residue Results (ppm)
----	CropFraction1	Storecheck 0901	19790	---				

[1]The Analysis date is the date of the first injection of the analytical run.
[2]Calculated from sampling to extraction of treated samples
N/A=Not Analyzed

If using control from another project don't forget to add:
(Example) 11737.16-CA65-OA/25986 extracted/analyzed on 01/17/18: <0.010 ppm

Choose which table to use

All text in red needs to be addressed for each project and can be deleted if not used

IV. **Standard Preparation**

(copy from working method)

V. **Analytical Procedure**

(copy from working method)

VI. **Quantitation:**

Calculations:

(copy from working method)

pg/µL determined X µL injected = actual ppm analyte
mg crop injected * 1000 conv. factor

actual ppm analyte x 100% = % Recovery
expected ppm analyte

For expressing in equivalents:
Metabolite residues are expressed as parent equivalents and are calculated by using the formula:

Average ppm * (conversion factor) = ppm found

The conversion factor was calculated using the formula:

Compound1 MW ÷ metabolite1 MW = conversion factor

Compound	Molecular Weight (MW)	Conversion Factor
Compound1		--
COMPOUND2		

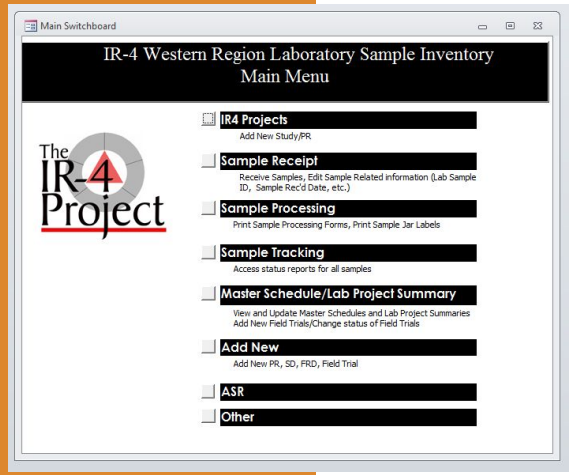
Table VII.3.1: Residue Data Results *(Alternate Residue Results Table..use if reporting parent equivalent. Can delete columns as necessary)*

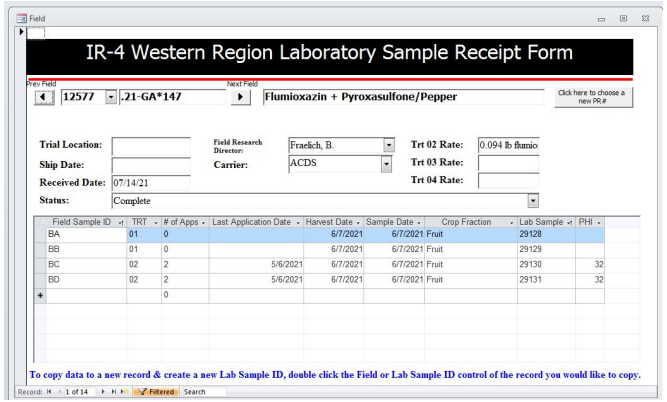
Trial ID	Crop Fraction	Field Sample ID	Lab Sample ID	Sampling Date	Extraction Date	Analysis Date[1]	Storage Interval[2]	Residue Results (ppm)				
								Compound1	Compound2 (parent equivalent)	Compound3 (parent equivalent)	Compound3 -monohydroxy (parent equivalent)	Compound4 (parent equivalent)
----	Freeze Dried	Storecheck 0901	19790	---								

[1]The Analysis date is the date of the first injection of the analytical run.

Work Smarter, Not Harder

- **Database**
  - Microsoft Access
  - Information is entered once, so there is less chance of mistakes. (IDs, dates, names, PR #, etc.)
  - An entry for the project is created as soon as a protocol is received. Field Trials and samples are entered into the database according to how it is listed in the protocol.
  - The database is used for multiple things (sample receipt, sample processing, sample tracking for analysis).
  - Lab Sample IDs are entered when samples are received in the lab.
  - We can generate a sample inventory table that can be copied into the ASR. (includes SD, start date, Field ID, Lab Sample ID, received date, etc.)





Sample Tracking Report

PR# 12091 **Fluopicolide/ Grapefruit**

Laboratory ID Number: 12091.17-CAR02 **Analyst:** Riza Punongbayan

Study Director: Kathryn Homa

Study Initiation Dat 11/3 /2016

Experimental Termination Date:

Field Trial	Matrix	Field Sample ID	Lab Sample ID	Sampling Date	Received Date	Subsample Date
FL162	Fruit	A	26595	12/6/2017	01/31/17	
FL162	Fruit	B	26596	12/6/2017	01/31/17	
FL162	Fruit	C	26597	12/6/2017	01/31/17	
FL162	Fruit	D	26598	12/6/2017	01/31/17	
FL128	Fruit	A	26625	1/11/2018	03/22/17	
FL128	Fruit	B	26626	1/11/2018	03/22/17	
FL128	Fruit	C	26627	1/11/2018	03/22/17	
FL128	Fruit	D	26628	1/11/2018	03/22/17	

Master Schedule

IR-4 Western Region Laboratory
University of California, Davis
Sponsor: IR-4 Headquarters
NATURE OF STUDY: Magnitude of Residue
1/20/2026

Chemical	Commodity	FID#	Study Initiated	Status	Study Director
Abamectin	Hemp	13048.22-CA29	4/12/2022	Report In Progress	Moore, Philip
Abamectin	Hemp	13048.22-FL103	4/12/2022	Dropped	Moore, Philip
Abamectin	Hemp	13048.22-MD169	4/12/2022	Dropped	Moore, Philip
Abamectin	Hemp	13048.22-NC252	4/12/2022	Report In Progress	Moore, Philip
Abamectin	Hemp	13048.22-OR221	4/12/2022	Report In Progress	Moore, Philip
Abamectin	Hemp	13048.22-UCP01/CA29	4/12/2022	Report In Progress	Moore, Philip
Abamectin	Hemp	13048.22-WI309	4/12/2022	Report In Progress	Moore, Philip
Abamectin	Hemp	13048.22-WI310	4/12/2022	Report In Progress	Moore, Philip
Abamectin	Hemp	13048.22-WI311	4/12/2022	Report In Progress	Moore, Philip
Abamectin	Hemp	13048.23-OH232	4/12/2022	Report In Progress	Moore, Philip
Abamectin	Hemp	13048.23-WI347	4/12/2022	Report In Progress	Moore, Philip
Abamectin	Hemp	13048.23-WI348	4/12/2022	Report In Progress	Moore, Philip
Acequinocyl	Hops	13539.23-ID312	6/6/2023	Terminated	Welker, Robert
Acequinocyl	Hops	13539.23-WA331	6/6/2023	Terminated	Welker, Robert
Afidopyropen	Avocado	13962.26-CA51	1/6/2026	Pending	Byrtus, James
Afidopyropen	Avocado	13962.26-CA52	1/6/2026	Pending	Byrtus, James

Fluopicolide/Grapefruit
12091.17-FL162 A/26595
(Fruit)
Processed: **Primary**

Fluopicolide/Grapefruit
12091.17-FL162 A/26595
(Fruit)
Processed: **Primary**

Fluopicolide/Grapefruit
12091.17-FL162 B/26596
(Fruit)
Processed: **Primary**

Fluopicolide/Grapefruit
12091.17-FL162 B/26596
(Fruit)
Processed: **Primary**

Fluopicolide/Grapefruit
12091.17-FL162 C/26597
(Fruit)
Processed: **Primary**

Fluopicolide/Grapefruit
12091.17-FL162 C/26597
(Fruit)
Processed: **Primary**

Fluopicolide/Grapefruit
12091.17-FL162 D/26598
(Fruit)
Processed: **Primary**

Fluopicolide/Grapefruit
12091.17-FL162 D/26598
(Fruit)
Processed: **Primary**

Work Smarter, Not Harder

- **Working Method**
  - All analysts use the same format for the working method that's similar to what goes into the ASR. The preparer just has to copy and paste and make slight formatting adjustments. Principle of Method
    - Standard preparation
    - Analytical procedure
    - Example Calculations
    - Instrument Parameters

Work Smarter, Not Harder

- **Software Help**
  - Copy tables into Excel for calculations.
  - Paginate with pre-saved parameters in Adobe Acrobat/Nitro Pro PDF
  - Find/Replace in Word template

What kinds of software do you use?


Work Together

- Write the working method with ASR prep in mind. Keep the format the same for easier copying and pasting into the ASR.
- Analysts QC their own ASRs before sending it to QA
- Work closely with QA
  - Master Schedules
  - Monthly Lab meetings for updates
- Help each other out. Depending on workload or availability, anyone can QC, prepare the ASR, proofread, or scan. We are all working towards one goal!

Questions?

Do you have any tips or tricks to share?

Thank you!

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IR-4 Project