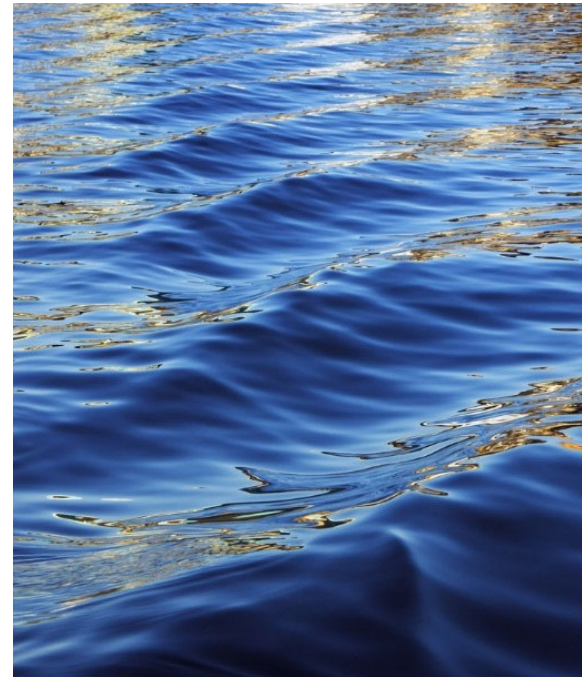


2021 IR-4 Training Webinars

December



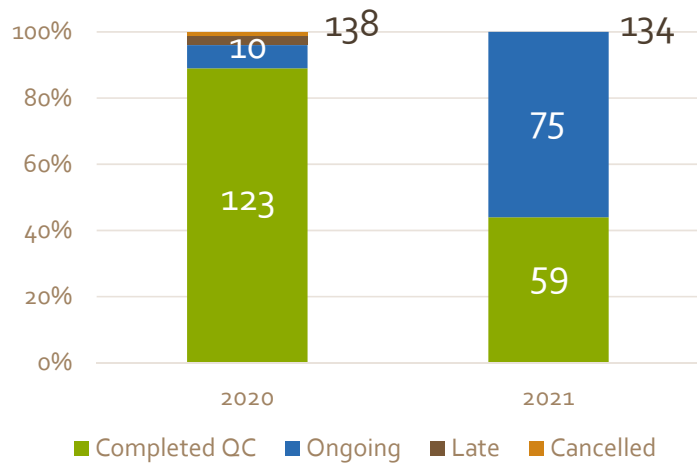
IR-4 Training Webinar: December

- Notebook status update (WR only)
- Trial differentiation-new guidelines
- Protocol Amendments and Changes
- Dilution types
- 2022 Draft protocols coming soon
- Shipment notification reminders from the lab
- Triumphs and challenges of the 2021 study cycle



Notebook Reminder

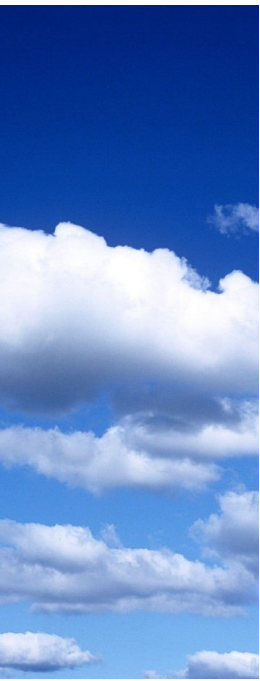
- FRDs: Please be completing notebooks in a timely fashion
- Status update (WR only)





Trial Differentiation

Debbie Carpenter, IR-4 Headquarters



Trial Differentiation

- Options for Trial Differentiation
- Why the Change?
- Think about....
- Impact if We Don't Change

Options in the 2022 Protocol

11.4 This section applies when a Field Research Director (FRD) has been assigned more than one trial in this study, or when two or more trials assigned to different FRDs are located within 18.6 miles (30 km) of each other. An independently prepared tank-mix must be used in each trial.

Also, choose at least one option from below

Option	Description
A	Trial sites must be separated by at least 30 km (18.6 miles) [measured as straight line distance]
B	Planting date (for annual crops) or first application date in each trial is separated by at least 30 days



Why

?



BUT WHY?

Why the Change?

Past years, a list of differentiation factors was OK.

As of 2020, EPA allowed only distance, time or variety.

Other countries did not accept variety except where very clear – cherry vs beefsteak tomato.

Determination of variability in residues is critical.

EPA revised guidelines to be consistent with OECD Field Trial Guidelines published in 2016.



Think About...

Can you do the trials assigned – please think about this NOW.

Discuss with RFC and SD

Move trials around

Spring season/Fall season

More two year studies

Consider whether there are other locations within 30 Km of your location.



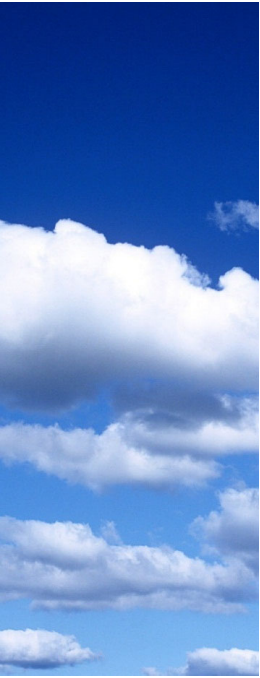
What if I Don't?

Redo a trial or two – usually in succeeding years which delays the study.

Regulatory agency notes it and denies registration

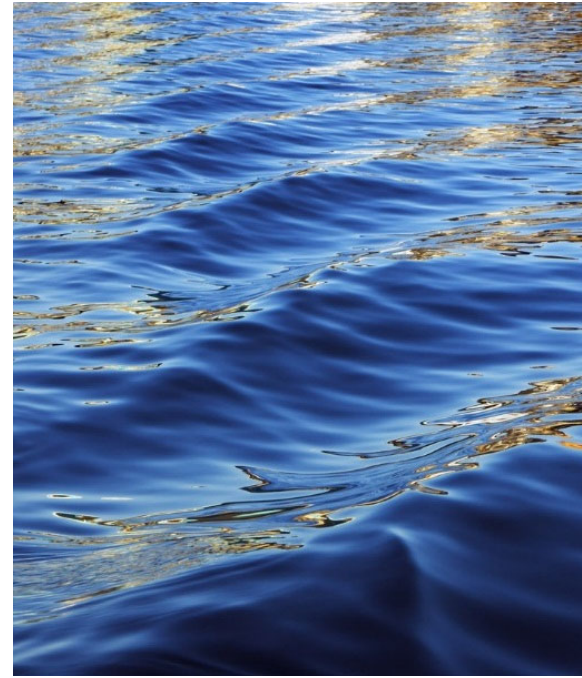
Goal is to obtain tools for growers as quickly as possible.

Please help us make this change.



Protocols and Protocol Changes

WSR Training Dec 8, 2021



Protocols and Protocol Changes

- You looked on the web page and....
- Challenges this past year
- Process is in place at NC State
- Please let us know if there are concerns



You looked on the web
page and....

It Wasn't There!!!

Challenges:

New Location – shipments

Manpower

Process

Process is in Place at NC State

Where Does it Start?

- Study Director drafts protocol
- Study Director drafts amendments
- Study Participants send deviations to the SD

Now What?

- Study Director signs
- Sponsor management signs
- (Reverse order for protocols)

Processing protocols and changes

- Scanned and uploaded to web page (Jimmy)
- Scan uploaded into eQA (Juliet)
- Email sent out to study participants (Jimmy and SD if urgently needed)
- Paper copy mailed to study participants (Jimmy)
- Paper copy to Juliet for QA study files (Jimmy)

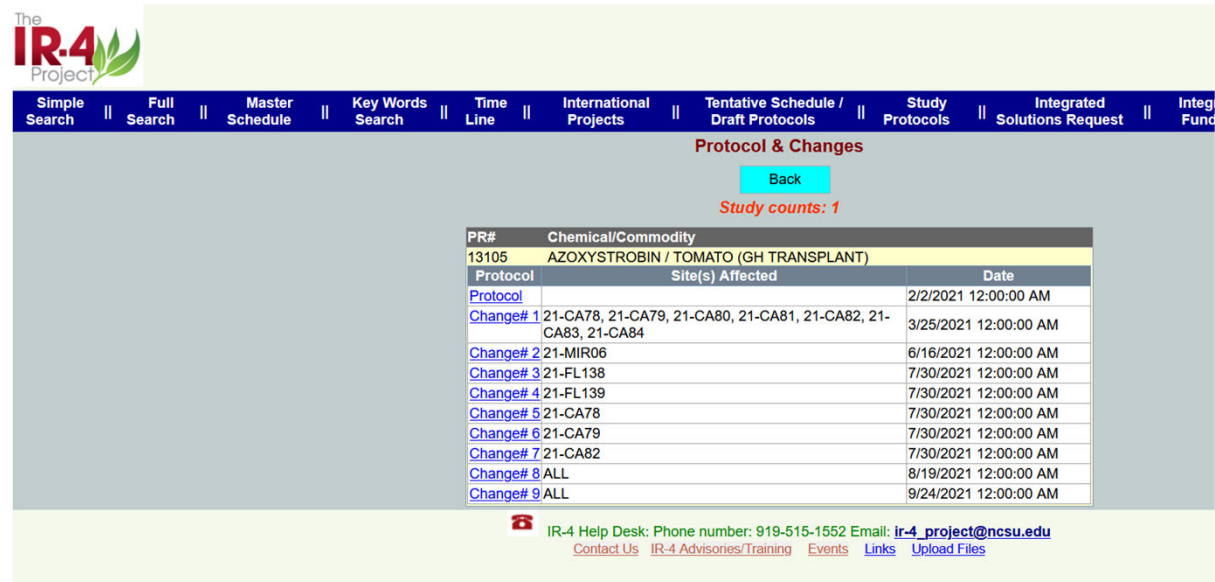


Please let us know if there are concerns...

We welcome your feedback

Protocol Amendments

- FRD perspective: Leona Horst
 - How do you make sure you don't miss a change?
- FRDs: Please include the relevant changes in the Field Data Book
 - Online search



The IR-4 Project logo is visible in the top left corner. The navigation bar includes links for Simple Search, Full Search, Master Schedule, Key Words Search, Time Line, International Projects, Tentative Schedule / Draft Protocols, Study Protocols, Integrated Solutions Request, and Integrated Fund. The main content area is titled 'Protocol & Changes' and features a 'Back' button and 'Study counts: 1'.

PR#	Chemical/Commodity	
13105	AZOXYSTROBIN / TOMATO (GH TRANSPLANT)	
Protocol	Site(s) Affected	Date
Protocol		2/2/2021 12:00:00 AM
Change# 1	21-CA78, 21-CA79, 21-CA80, 21-CA81, 21-CA82, 21-CA83, 21-CA84	3/25/2021 12:00:00 AM
Change# 2	21-MIR06	6/16/2021 12:00:00 AM
Change# 3	21-FL138	7/30/2021 12:00:00 AM
Change# 4	21-FL139	7/30/2021 12:00:00 AM
Change# 5	21-CA78	7/30/2021 12:00:00 AM
Change# 6	21-CA79	7/30/2021 12:00:00 AM
Change# 7	21-CA82	7/30/2021 12:00:00 AM
Change# 8	ALL	8/19/2021 12:00:00 AM
Change# 9	ALL	9/24/2021 12:00:00 AM

IR-4 Help Desk: Phone number: 919-515-1552 Email: ir-4_project@ncsu.edu
[Contact Us](#) [IR-4 Advisories/Training](#) [Events](#) [Links](#) [Upload Files](#)

eQA Hints

- Some watch outs when responding to findings:
 - Only have one window of eQA open at a time otherwise it could lead to hiccups in the system
 - When working on several different audits simultaneously and using Word Documents, it is easy to copy and paste the wrong findings or responses in eQA
 - In eQA, you can go to "3. QA Findings/Recommendations" to verify that findings did not change

A generic example:

Go Back | Show Activities / Workflow Status Page | Show Audit Trail Page | Print Page

1. Cover Sheet 2. Analytical Raw Data Checklist 3. QA Findings/Recommendations 4. Response to QA Findings 5. SD/TFM Approval Page

[Go To Bottom](#)

Response to QA Findings

Form Group: Analytical Raw Data Audit
Packet ID: ARDA-000062
Audit Type Chem/Crop/PR#(ID): ARDA Cyazofamid/tomato 10656.11-CAR05
Location: IR-4 Project Headquarters
Date: 12/13/2012 9:40:34 AM
Closed: (Van Starner - 6/18/2013 4:04:05 PM) [Re-Open Packet](#)

QA findings for LRD. Please respond. Initial and date each response. :

I li Matt, ,

1. Do you have a recent sample prep sheet?

Sure do. 12/14/2012 MH

2. Please attach a copy of a recent sample prep sheet.

Done. 12/14/2012 MH

3. What is the name of the file for the attached sample prep sheet?

Stability_Full_12_3_2012.docx 12/14/2012 MH

Wrong file name submitted see correct file name
Sample Analysis Form_WI03_CA26_Tomato_GH.doc 6/18/2013 MH

QA findings for Study Director. Please respond if applicable. Initial and date each response. :

Attachments #1:
Sample Analysis Form_WI03_CA26_Tomato_GH.doc

Dilution Types

- Dilution Ratio represents a mixture of one liquid with another to achieve a desired concentration.

X parts to Y parts or (1:4)



- If we use **1** part of a solution to **4** parts of another solution then we have a solution made up of a total of **5** parts.
- So **X** becomes 20% of the total solution containing **X** and **Y**.
- The Protocol may simply state “dilute **1** gal of something with **15** gal of water” or it may be simplified as **1:15**.

Dilution Types

- Dilution Factor describes the ratio of a volume of product to the whole volume of the entire diluted solution.

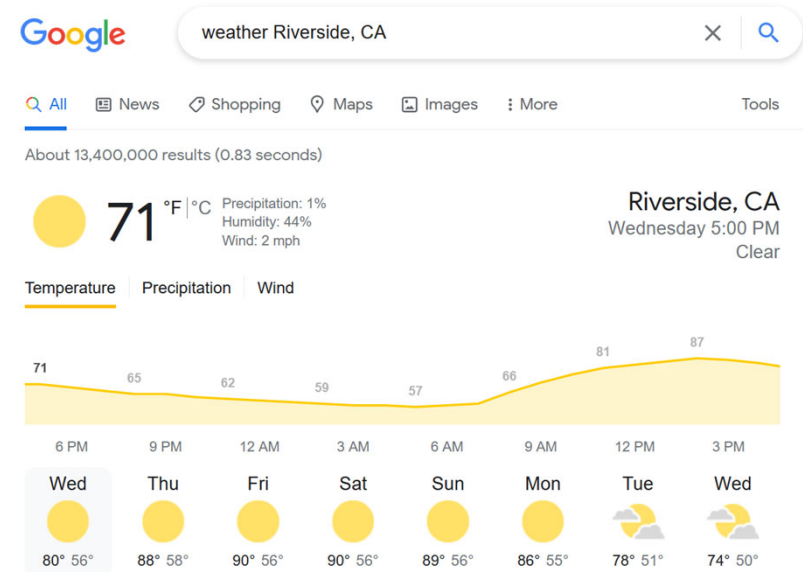
X parts in Y parts

- Using the **1:4** notation, we have **1** part of a solvent compared to **3** parts of another solution. Which means we have a solution made up of a total of **4** parts.
- This **1:4** notation means the first solution is **25%** of the other.
- Ask the Study Director for clarification of any dilutions directions in the Protocol.



2022 Draft Protocols

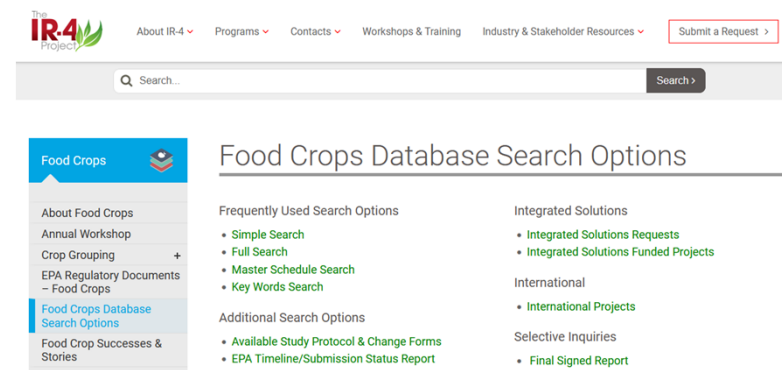
- Coming Soon!
 - WR drafts posted on ir4works.org site
- Spring arrives in January in California
- Importance of review
 - FRD Perspective: David Ennes

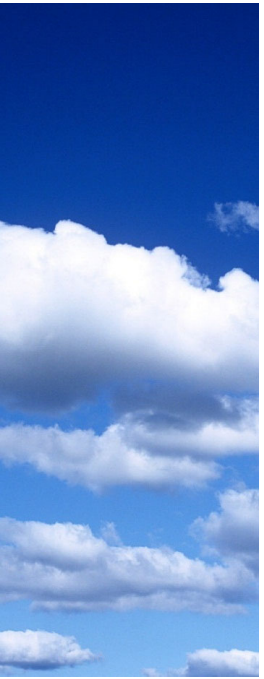


Shipment Notification Reminders

Alex McFall, Western Region Analytical Lab

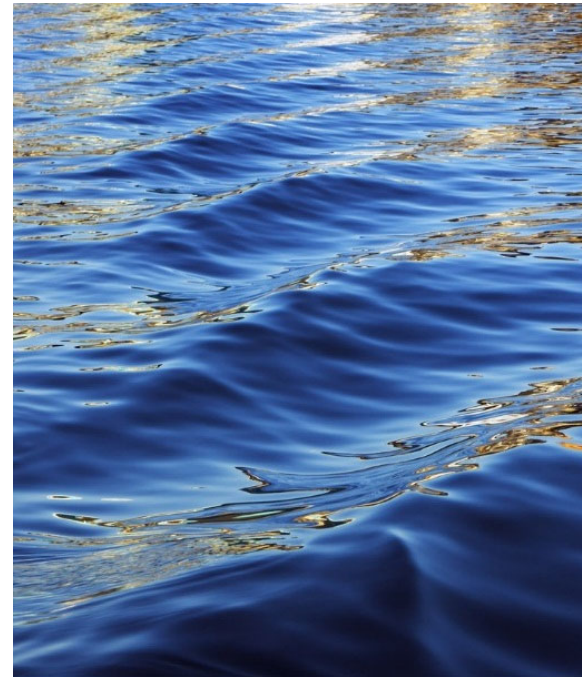
- Check amendments prior to shipping
- Notify labs and request response
 - Make sure you ship to the right person at the lab (there can be multiple)
- Problems?
 - ACDS shipping mixup?
 - Contact the wrong lab that received samples
 - Ask for chain of custody docs, freezer/temp logs
 - Arrange shipment to correct lab
 - Notify the correct lab ASAP
 - Ask the wrong lab to use a new bill of lading for shipping to the correct lab
 - Notify Regional Field Coordinator and Study Director
 - Document all this in your field data book





Challenges and Triumphs in 2021

Debbie Carpenter, IR-4 Headquarters

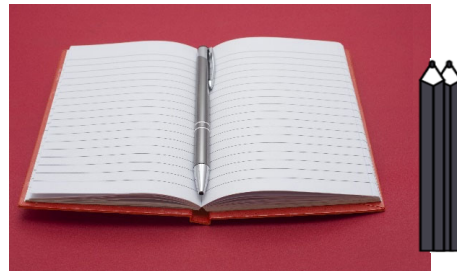


Challenges and Triumphs in 2021

- Challenges in 2021, and on-going
- Triumphs in 2021
- Thoughts for 2022

Challenges in 2021

- Funding
- Trial Differentiation
- Multiple Difficult Protocols
- Completing FDB
- Lab Backlog
- Moving IR-4 HQ
 - Change in Processes
 - Loss of Personnel

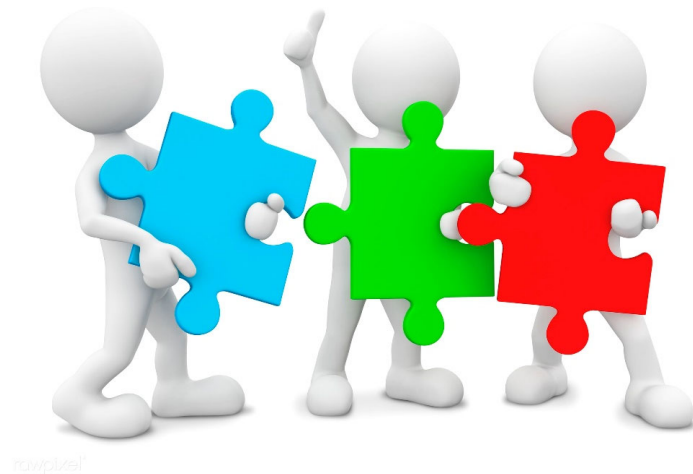


Protocols



Triumphs in 2021

- IR-4 Residue Team –field, lab, QA and SD
 - continued to move studies forward. Thanks to all, especially those who made the difficult assignments work.
 - You assure our success
- NC State Office
 - New, dedicated team
 - Making processes more efficient

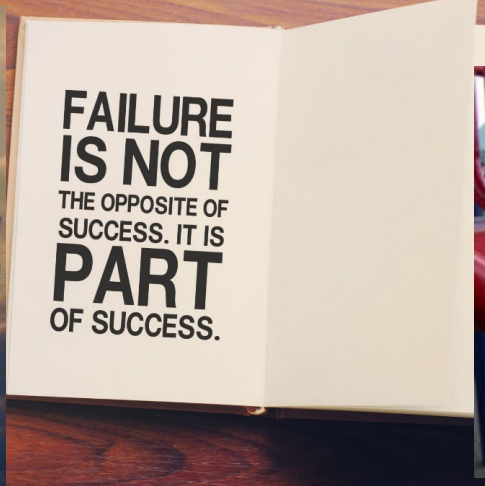
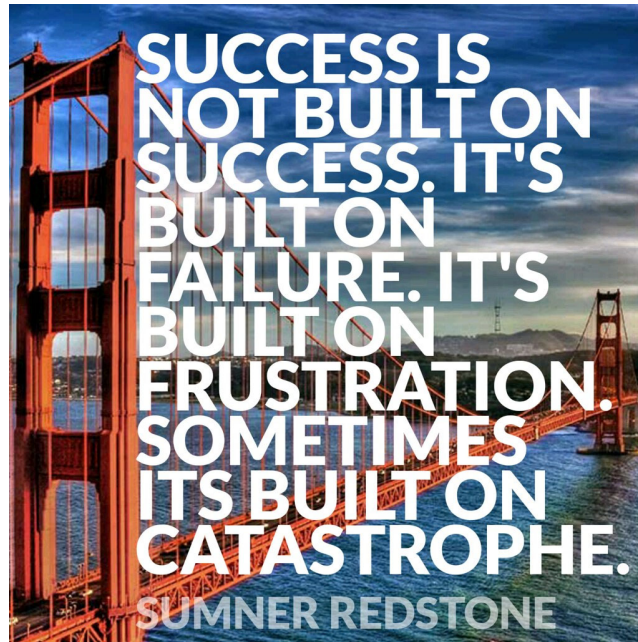
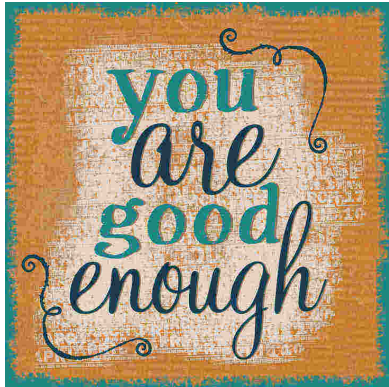


Challenges in 2021

- Funding
- Trial Differentiation
- Multiple Difficult Protocols
- Completing FDB
- Lab Backlog
- Moving IR-4 HQ
 - Change in Processes
 - Loss of Personnel

Challenges in 2022

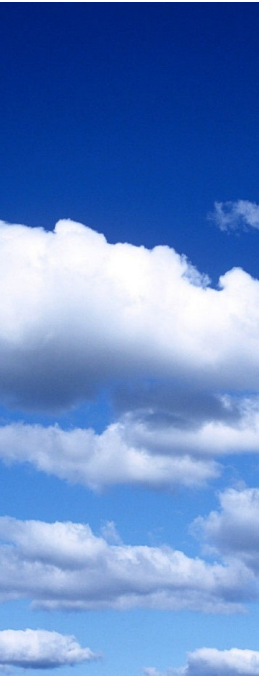
- Funding
- Trial Differentiation
- Multiple Difficult Protocols
- Completing FDB
- Lab Backlog and Lab Closure



Triumphs in 2022

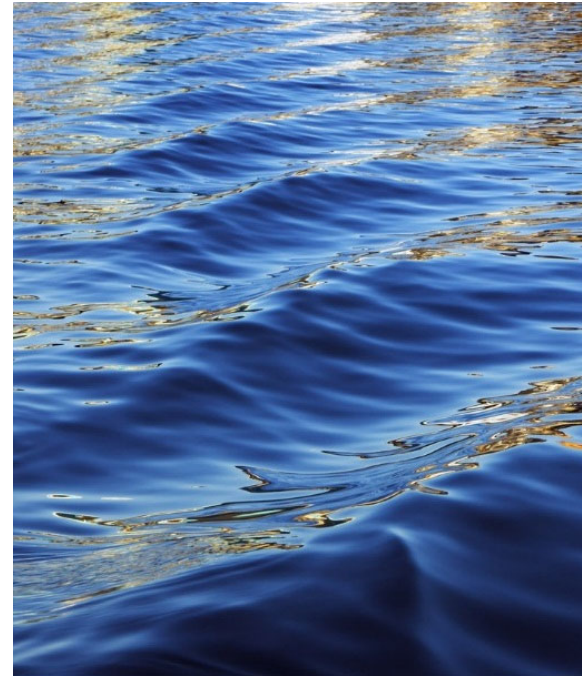
- There will be triumphs
- Yet to be determined
- I believe in the IR-4 team to make things happen.
- Together, we will be successful!





Quality Assurance Update

Johanna Mazlo, IR-4 Headquarters QA



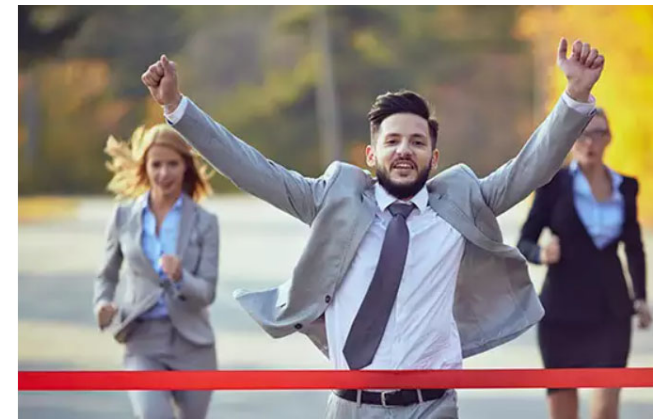
QA Update

- IR-4 QA Team
 - NCR – Michael Chen, Ehab Adbelraheem, and Lisa Latham
 - NER – Jane Forder
 - HQ – Jane Forder, Juliet Thompson and Scott Muir
 - SOR – Kathleen Knight and Yavuz Yagiz
 - WR – Martin Beran and Sherita Normington



QA Successes

- QA is up to speed in the new HQ site
 - Now fully staffed with the addition of Scott Muir
- SOR was one of the first sites in the US to undergo EPA compliance monitoring
 - In lieu of the typical face to face inspections
 - Successful with no findings
- Regional QA navigated travel during Covid restrictions
 - Successfully conducted in-life/facility inspections in 2020 & 2021
 - So far in 2021, 155 completed field in-life inspections
- QA has been looking at increasing efficiencies and ways of working
 - Final reports are now typically audited using electronic files
 - Beta testing a new process for auditing internal IR-4 processing reports
 - Working with PMC in Canada



Thank You!!!

- The transition has been a learning curve with several challenges that we have had to work through. We are on the other side of the curve.
- Thank you to:
 - QA Team
 - The entire IR-4 Family
- Please let us know if we can be of assistance

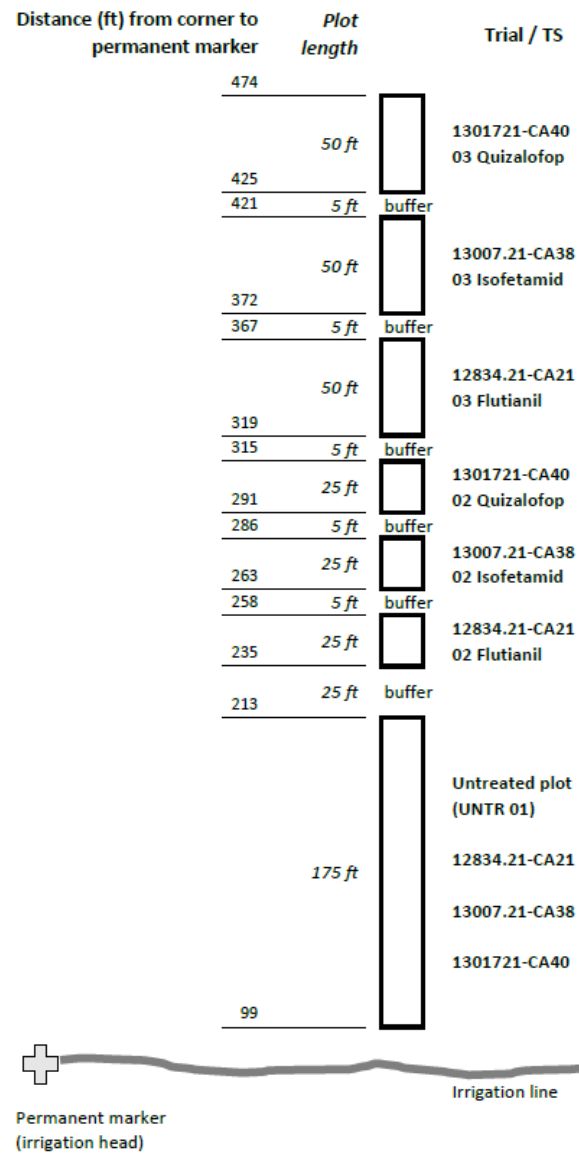


Challenges in UC Davis hemp trials

Guy Kyser

- Security
- Plot layout (3 trials)
- Organizing harvest & sampling





All plots are 15 ft wide
 (three 5-ft beds with 2
 rows per bed).
 Distances not to scale.





Working sheet for harvesting & sampling

Hemp trials harvest date:

WE 9/21/21

all 2021
Harvest 9/21/21 except * 9/22/21

TRIAL	TRT	Sample	Target wt (lb)	Time of harvest	A Empty bag wt (lb)	B Full bag wt (lb)	C Wet wt (lb) = B - A	D Est dry wt (lb) = C * 0.828	Target sample wt at 8-12% = D * 1.087 to 1.136	Date of weighing / sampling all 2021	Wt with bag (lb)	Wt minus bag (lb)
12834	01	FBA	4	9:50am	0.08	4.08	4.00	0.912	0.99 - 1.04	9/21 1:23p	1.12	1.04
12834	01	FBB	4	9:52a	0.08	4.08	4.00	0.912	0.99 - 1.04	9/21 1:32p	1.12	1.04
12834	01	FBU	15	12:06p	1.87	15.66	13.79	3.14	3.42 - 3.57	9/28 9:30a	5.46	3.59
13007	01	FBA	4	9:54a	0.08	4.10	4.02	0.917	1.00 - 1.04	9/21 1:08p	1.12	1.04
13007	01	FBB	4	9:56a	0.08	4.11	4.03	0.919	1.00 - 1.04	9/21 1:27pm	1.12	1.04
13007	01	FBU	15	10:35a	1.96	16.17	14.21	3.24	3.52 - 3.68	9/28 2:14p	5.66	3.70
13017	01	FBA	4	9:58a	0.08	4.10	4.02	0.917	1.00 - 1.04	9/28 8:45a	1.12	1.04
13017	01	FBB	4	10:00a	0.08	4.14	4.06	0.926	1.01 - 1.05	9/27 1:14p	1.13	1.05
13017	01	FBU	15	12:07pm	1.85	16.44	14.59	3.33	3.62 - 3.78	9/28 2:09pm	5.40	3.55
12834	02	FBC	4	2:13p	0.08	4.12	4.04	0.921	1.00 - 1.05	9/27 2:09pm	1.13	1.05
12834	02	FBD	4	2:32p	0.08	4.53	4.45	1.015	1.10 - 1.15	9/27 2:37p	1.22	1.12
13007	02	FBC	4	2:55p	0.08	4.58	4.50	1.026	1.12 - 1.17	9/27 2:05pm	1.24	1.16
13007	02	FBD	4	3:14p	0.08	4.46	4.38	0.99	1.09 - 1.13	9/27 2:43p	1.28	1.20
13017	02	FBC	4	3:40p	0.08	4.17	4.09	0.933	1.01 - 1.06	9/27 4:20pm	1.14	1.06
13017	02	FBD	4	3:51p	0.08	4.31	4.23	0.964	1.05 - 1.10	9/27 4:25pm	1.20	1.12
* 12834	03	FBT	15	10:32a	1.88	17.48	15.60	3.56	3.87 - 4.04	9/28 9:45am	6.00	4.12
* 13007	03	FBU	15	11:52a	1.90	16.94	15.04	3.43	3.73 - 3.90	9/28 2:48p	5.83	3.93
13017	03	FBU	15	5:03p	1.87	17.68	15.81	3.60	3.92 - 4.09	9/28 2:54p	5.98	4.11

9/21/21
IF 9/21/21
Part 7
Page 8

Flutnant/Hemp
ID No. 12834-21-CA21
Kyser

13007 and 12834 sample ID is "FBT" and "FBU", without a "1".
WE - 9/28/21

Circled samples were stored in bag cold room (40F) overnight after sampling.

9/27/21

WE 9/27/21

WE 9/27/21

ORIGINAL

A Coherent Summary

And moisture estimates. Weights & dates transcribed from 7:8. Weights do not include bags.

12834.21-CA21 harvest and sampling times

TRT	Sample	Time of harvest ¹		Sample weight (lb)			Time sampled ⁴		Final wt (lb)	Moisture estimate ⁵ (%)
		Date	Time	Wet wt	Est dry wt ²	Target wt ³	Date	Time		
01	FBA	9/21/21	0950	4.00	0.912	0.99 to 1.04	9/27/21	1323	1.04	12.3
01	FBB	9/21/21	0952	4.00	0.912	0.99 to 1.04	9/27/21	1332	1.04	12.3
01	FBU	9/21/21	1206	13.79	3.14	3.42 to 3.57	9/28/21	0930	3.59	12.5
02	FBC	9/21/21	1413	4.04	0.921	1.00 to 1.05	9/27/21	1409	1.05	12.3
02	FBD	9/21/21	1432	4.45	1.015	1.10 to 1.15	9/27/21	1433	1.22	16.8
03	FBT	9/22/21	1032	15.60	3.56	3.87 to 4.04	9/28/21	0945	4.12	13.6

13007.21-CA38 harvest and sampling times

TRT	Sample	Time of harvest ¹		Sample weight (lb)			Time sampled ⁴		Final wt (lb)	Moisture estimate ⁵
		Date	Time	Wet wt	Est dry wt ²	Target wt ³	Date	Time		
01	FBA	9/21/21	0954	4.02	0.917	1.00 to 1.04	9/27/21	1308	1.04	11.8
01	FBB	9/21/21	0956	4.03	0.919	1.00 to 1.04	9/27/21	1327	1.04	11.6
01	FBU	9/21/21	1035	14.21	3.24	3.52 to 3.68	9/28/21	1414	3.70	12.4
02	FBC	9/21/21	1455	4.50	1.026	1.12 to 1.17	9/27/21	1405	1.16	11.6
02	FBD	9/21/21	1514	4.38	0.999	1.09 to 1.13	9/27/21	1443	1.20	16.8

Hemp harvest procedures

All three hemp trials at UC Davis (12834.21-CA21, 13007.21-CA38, 13017.21-CA40) used the same cultivar (var. “Maverick”) and were planted, irrigated, etc. on the same schedule. Therefore I used a single moisture estimation procedure for all three trials (next paragraph).

Moisture estimation. See page _____. On 9/20/21, I harvested bud samples into 3 paper bags for moisture estimation. I weighed them fresh (“wet weight”), then put them in a dryer at 57° C. I weighed them every day or so until the weights stopped changing, then determined the dry fraction for each sample (dry fraction = final weight / wet weight). The average of the 3 dry fraction values was used to determine a moisture estimate for all three trials.

The wet weight for each sample is multiplied by the dry fraction to predict the dry weight. The predicted dry weight for each sample is multiplied by 1.087 to 1.136 to determine a target sample weight with a moisture range of 8% to 12%.

Harvest and sampling. See page _____. For untreated samples (FBA, FBB, FBV, FBV1), I used loppers to clip 24 to 30 plants out of the 01 plot. Five graduate students, Seth Watkins, and I used garden clippers to trim all the buds off all the plants (from all parts of the plants – high, low, outer, and inner). We also clipped the larger leaves off each bud. The buds were compiled

Challenges and Triumphs at Oregon State

Dani Lightle

2020...



2021



2021



Seed Selection & Propagation



Auto-flower vs Full Season?

Feminized?

Variety: CBD or CBG?



Annual Rye Winter Cover Crop

Plastic for weed management

A little low on nitrogen

Plastic removed for quizalofop trial



Drying temperatures

13007.21 Isofetamid – none specified

12834.20 Flutianil – none specified

13017.21 Quizalofop – less than 95°F

