

Preliminary Results



European Union Reference Laboratory for Pesticide Residues in Fruits & Vegetables

EUPT-FV-15
European Proficiency Test FV-15

7th May

EUPT-FV-15

European Proficiency Test FV-15



Potato



EUPT-Panel

DG SANCO

Mrs. Almut Bitterhof

ORGANISING GROUP

Dr. Amadeo R. Fernández-Alba

Dr. Milagros Mezcua

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STATISTICAL GROUP

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Dr. André de Kok

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Dr. Michelangelo Anastassiades

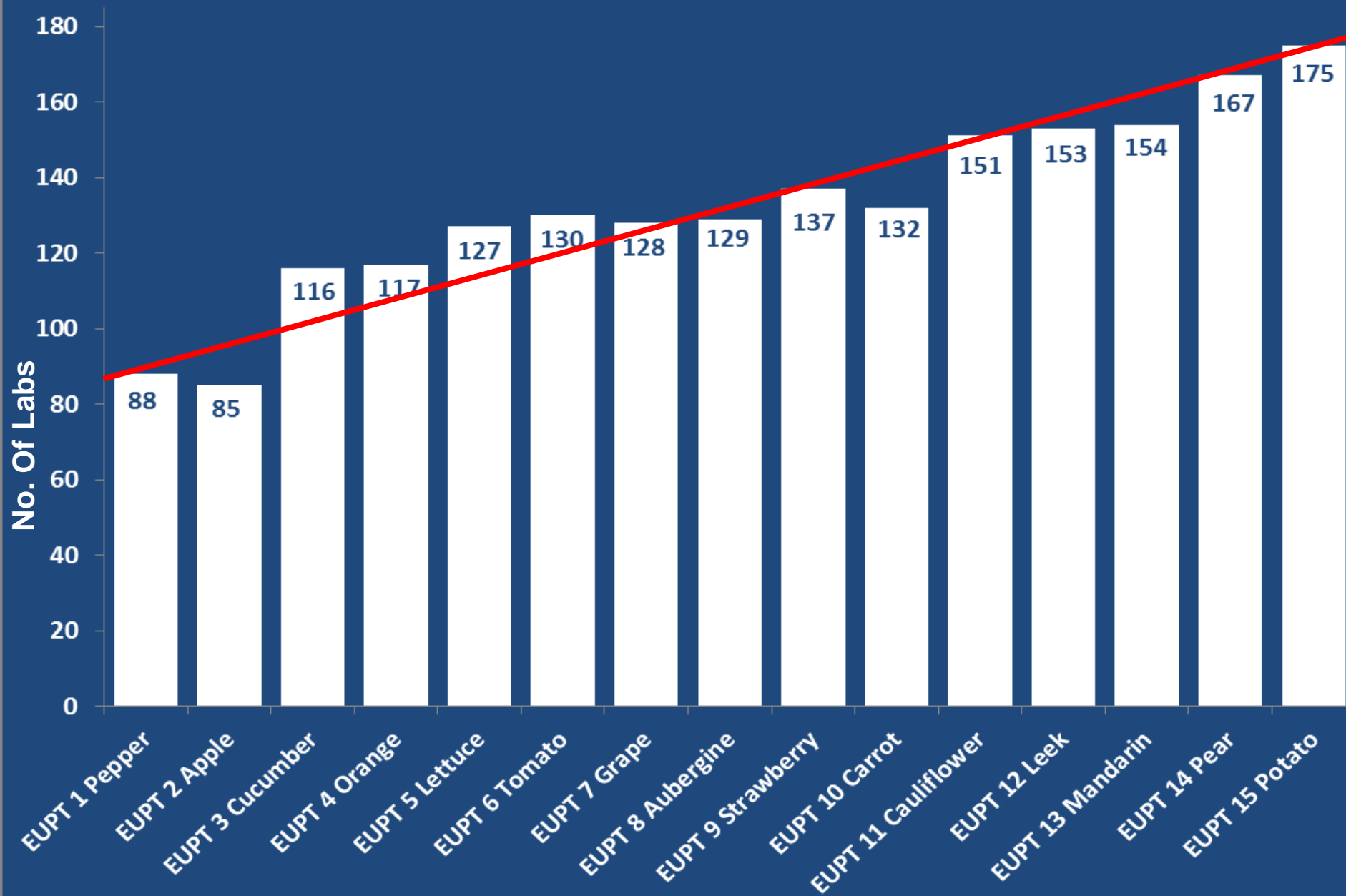
Dr. Miguel Gamón

Mr. Ralf Lippold

Dr. Magnus Jezussek

Dr. Darinka Stajnbaher

7th May





7th May

Country	No. of Labs	Country	No. of Labs	Country	No. of Labs
Austria	3 (-1)	Greece	10	Portugal	3
Belgium	8 (+4)	Hungary	4	Romania	3
Brazil	1 (-1)	Iceland	1	Saudi Arabia	1 New
Bulgaria	2 (+1)	India	1	Serbia	1
China	2 New	Ireland	1	Slovakia	2
Cyprus	1	Israel	1	Slovenia	3
Croatia	3	Italy	24	Spain	28 (+3)
Czech Republic	3 (+1)	Latvia	1	Sweden	2
Denmark	2	Lithuania	1	Switzerland	3 (-1)
Estonia	2	Luxembourg	2 (+1)	The Netherlands	2
Finland	2	Malta	2 (-1)	Turkey	1
France	10 (+1)	Morocco	1 New	United Kingdom	4
		Norway	1	Uruguay	1
Germany	25 (+2)	Poland	11 (+2)	Total No. of Labs = 175 Total No. of Third countries Labs = 13 Total No. of Countries = 40	

Participation

Total No. of Labs = 175

Total No. of Third countries Labs = 13

Total No. of Countries = 40

(27 EU + 3 EFTA + 1 acceding country + 2 Candidate countries + 7 3rd countries)

7th May

175 pesticides

Clofentezine	Fenarimol	Lambda-Cyhalothrin	Phosmet oxon
3-hydroxy-carbofuran	Fenazaquin	Linuron	Phoxim
Acephate	Fenbuconazole	Lufenuron	Pirimicarb
Acetamiprid	Fenhexamid	Malaoxon	Pirimiphos-methyl
Acrinathrin	Fenitrothion	Malathion	Prochloraz
Aldicarb	Fenoxycarb	Mepanipyrim	Procymidone
Aldicarb Sulfone	Fenpropathrin	Metaflumizone*	Profenofos
Aldicarb Sulfoxide	Fenpropimorph	Metalaxyl and metalaxyl-M	Propargite
Amitraz	Fenthion	Metconazole	Propiconazole
Azinphos-methyl	Fenthion oxon	Methamidophos	Propyzamide
Azoxystrobin	Fenthion oxon sulfone	Methidathion	Prothioconazole
Benfuracarb	Fenthion oxon sulfoxide	Methiocarb	Prothiofos
Bifenthrin	Fenthion sulfone	Methiocarb sulfone	Pyraclostrobin
Bitertanol	Fenthion sulfoxide	Methiocarb sulfoxide	Pyridaben
Boscalid	Fipronil	Methomyl	Pyrimethanil
Bromopropylate	Fludioxonil	Methoxyfenozide	Pyriproxyfen
Bromuconazole	Flufenoxuron	Monocrotophos	Quinoxifen
Bupirimate	Fluopicolide*	Myclobutanil	Spinosad
Buprofezin	Fluquinconazole	Omethoate	Spirodiclofen
Cadusafos*	Flusilazole	Orthophenylphenol	Spiroxamine
Captan	Flutolanil*	Oxadixyl	Tau-Fluvalinate
Carbaryl	Flutriatol	Oxamyl	Tebuconazole
Carbendazim	Folpet	Oxydemeton-methyl	Tebufenozide
Carbofuran	Fosthiazate	Paclobutrazole	Tebufenpyrad
Carbosulfan	Hexaconazole	Paraoxon-methyl	Teflubenzuron
Chlorfenapyr	Hexythiazox	Parathion-ethyl	Tefluthrin
Chlorfenvinphos	Imazalil	Parathion-methyl	Tetraconazole
Chlorobenzilate*	Imidacloprid	Penconazole	Tetradifon
Chlorothalonil	Indoxacarb	Pencycuron	Thiabendazole
Chlorpropham	Iprodione	Pendimethalin	Thiacloprid
Chlorpyrifos	Iprovalicarb	Phenthoate	Thiamethoxam
Chlorpyrifos-methyl	Isofenphos-methyl	Phosalone	Thiodicarb
	Kresoxim-methyl	Phosmet	

*Not in the coordinated
multiannual control programme

7th May

Pesticides used for the treatment

Acephate	Linuron
Azoxystrobin	Methiocarb
Chlorpropham	Pencycuron
Chlorothalonil	Prochloraz
Cypermethrin	Procymidone
Diazinon	Spirodiclofen
Fluopicolide*	Thiabendazole
Flutolanil*	Thiacloprid
Fosthiazate	Total: 18
Iprovalicarb	

** Not in the coordinated multiannual control programme*

New in the target list

* COMMISSION IMPLEMENTING REGULATION (EU) No 788/2012 of 31 August 2012 concerning a coordinated multiannual control programme of the Union for 2013, 2014 and 2015 to ensure compliance with maximum residue levels of pesticides and to assess the consumer exposure to pesticide residues in and on food of plant and animal origin .

7th May

CALENDAR

ACTIVITY	DATE
- Publishing the Target Pesticide List, Calendar on the Web page	22nd October 2012
- Receiving Application Form from invited laboratories.	3rd Dec 2012 - 7th Jan 2013
- Specific Protocol published on the Web site	7th Jan 2013 at the latest
- Filling in the Laboratory Scope from the Participants: Form 0	8th-18th January 2013
- Sample distribution.	21st January 2013
- Deadline for receiving sample acceptance: Form 1	25th January 2013
- Deadline for receiving results: Form 2, Form 3 and Form 4	13th February 2013
- Filling in Form 5	20th-27th February 2013
- Preliminary Report: provisional results, medians and z-scores.	April 2013
- Final Report to the Laboratories	December 2013

WEB PAGE: Forms

7th May

Forms

Main Page EUPT-FV 15

Link to Result -
Submission:European Union Proficiency Test on Pesticide Residues in Fruits and Vegetables
- EUPT-FV 15 2013

Contact Persons:

0. Laboratory scope

[Specify which pesticides you analysed for.](#)

Deadline 18th Jan 2013

1. Test Material Receipt

[Acknowledge receipt of test material.](#)

Deadline 25th Jan 2013

2. Detected pesticides

[Specify which pesticides you have detected.](#)

Deadline 13th Feb 2013

3. Results

[Enter your analytical results.](#)

Deadline 13th Feb 2013

4. Methods

[Describe the methods used for your analyses.](#)

Deadline 13th Feb 2013

5. Additional Information Requested

[Describe the methods used for your analyses](#)

Deadline 27th Feb 2013

Welcome to the results submission pages.

To submit results for EUPT-FV-15 you have to enter your data into the 6 subpages 0-5. Each page contains instructions on how to enter the data and **each page must be saved separately.**

First of all, fill in the laboratory scope form indicating the pesticides you analyze [0.Laboratory scope](#) from the Target Pesticide List [click here to download it.](#)

When you receive the sample, please enter subpage [1.Test Material Receipt](#)

To report results start with: [2. Detected Pesticides.](#) For the list you report in Form 0, indicate which ones you have detected. New validated pesticides may be marked as detected.

Continue with page: [3. Results.](#) Here you can enter your results for the pesticides you have detected, concentrations and recoveries.

Next page: [4. Methods.](#) Here you must enter information about the methods you have used. For each detected pesticide indicate details about the analytical procedure, e.g. sample weight, extraction solvents, GC- and HPLC-detectors,...

Finalize with page: 5. Additional Information Requested. This Form will be accessible, after the deadline for submitting results. Here you will be requested to enter information about the methods you have used for each one of the pesticides you have analysed for but you have not detected in the sample (these are the false negatives). The system will request you the pesticides that you need to fill in that were present in the sample. **No changes will be accepted on the concentration results.**

Remember to save any page separately before you leave it.

When you click "save" in the webpages the data will be stored, after the deadline all your data in the database will be downloaded by the organization to create the final report, you don't need to send us any document

You can enter into the different pages as many times as you wish until the deadline. You can e.g. enter all data for the GC pesticides one day (on page 1 to 4) and the LC results another day. Just remember to enter data in the right order from page 0 to 5. If you need to correct the data, this must be done before the deadline.

Click [here](#) to get an excell with all your inputs.

Octavio Malato
omalato@ual.es
Carmen Ferrer
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EURL-FV

7th May

Organic Potatoes were grown in Almería, Spain



7th May

Post harvest treatment with commercial formulation and with standard solution



Commercial products used to treat the sample

Pesticide	Concentration (mg/kg)	MRRL	Type	Commercial Product
Acephate	<0.1	0.01	Standard	Dr.Ehrenstorfer
Azoxystrobin	0.1-0.2	0.01	Commercial	Ortiva 25% P/V
Chlorpropham	>1	0.01	Standard	Sigma-Aldrich
Chlorothalonil	0.1-0.5	0.01	Commercial	Bravo 50
Cypermethrin	<0.1	0.01	Commercial	Citron 10%
Diazinon	0.1-1	0.01	Commercial	Fegazinongole 60%
Fluopicolide	<0.1	0.01	Standard	Sigma-Aldrich
Flutolanil	0.1-0.5	0.01	Standard	ChemService
Fosthiazate	<0.1	0.01	Commercial	Nemathorin 10 G
Iprovalicarb	<0.1	0.01	Standard	Sigma-Aldrich
Linuron	<0.1	0.01	Standard	Sigma-Aldrich
Methiocarb	0.1-0.2	0.01	Standard	Dr.Ehrenstorfer
Pencycuron	0.1-1.0	0.01	Commercial	Trotis 25 sc
Prochloraz	<0.1	0.01	Standard	Sigma-Aldrich
Procymidone	<0.1	0.01	Commercial	Driza 50%
Spirodiclofen	0.1-1.0	0.01	Standard	Sigma-Aldrich
Thiabendazole	>1	0.01	Commercial	Textar 60T
Thiacloprid	0.1-0.5	0.01	Commercial	Calypso 48% P/V

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Pesticide	Concentration (mg/kg)	MRRL	Type	Commercial Product
Acephate	<0.1	0.01	Standard	Dr.Ehrenstorfer
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Chlorpropham	>1	0.01	Standard	Sigma-Aldrich
Chlorthalonil	0.1-0.5	0.01	Commercial	Bravo 50
Cypermethrin	<0.1	0.01	Commercial	Citron 10%
Diazinon	0.1-1	0.01	Commercial	Fegazinongole 60%
Fluopicolide	<0.1	0.01	Standard	Sigma-Aldrich
Flutolanil	0.1-0.5	0.01	Standard	ChemService
Fosthiazate	<0.1	0.01	Commercial	Nemathorin 10 G
Iprovalicarb	<0.1	0.01	Standard	Sigma-Aldrich
Linuron	<0.1	0.01	Standard	Sigma-Aldrich
Methiocarb	0.1-0.2	0.01	Standard	Dr.Ehrenstorfer
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Prochloraz	<0.1	0.01	Standard	Sigma-Aldrich
Procymidone	<0.1	0.01	Commercial	Driza 50%
Spirodiclofen	0.1-1.0	0.01	Standard	Sigma-Aldrich
Thiabendazole	>1	0.01	Commercial	Textar 60T
Thiacloprid	0.1-0.5	0.01	Commercial	Calypso 48% P/V

7th May



7th May



7th May

Homogeneity

- The homogeneity in the treated sample was studied using the 2006 Harmonised Protocol.

-The sampling standard deviation of all the pesticides must be lower than the critical value.

$$S_{\text{sample}}^2 < c$$

Where,

$$c = F_1 \sigma_{\text{all}}^2 + F_2 s_{\text{analytical}}^2$$

$$\sigma_{\text{all}}^2 = 0.3 \times \text{FFP RSD}(25\%) \times \text{MEAN}$$

All the pesticides passed the homogeneity test

Stability

1st Analysis - prior to the sample shipment

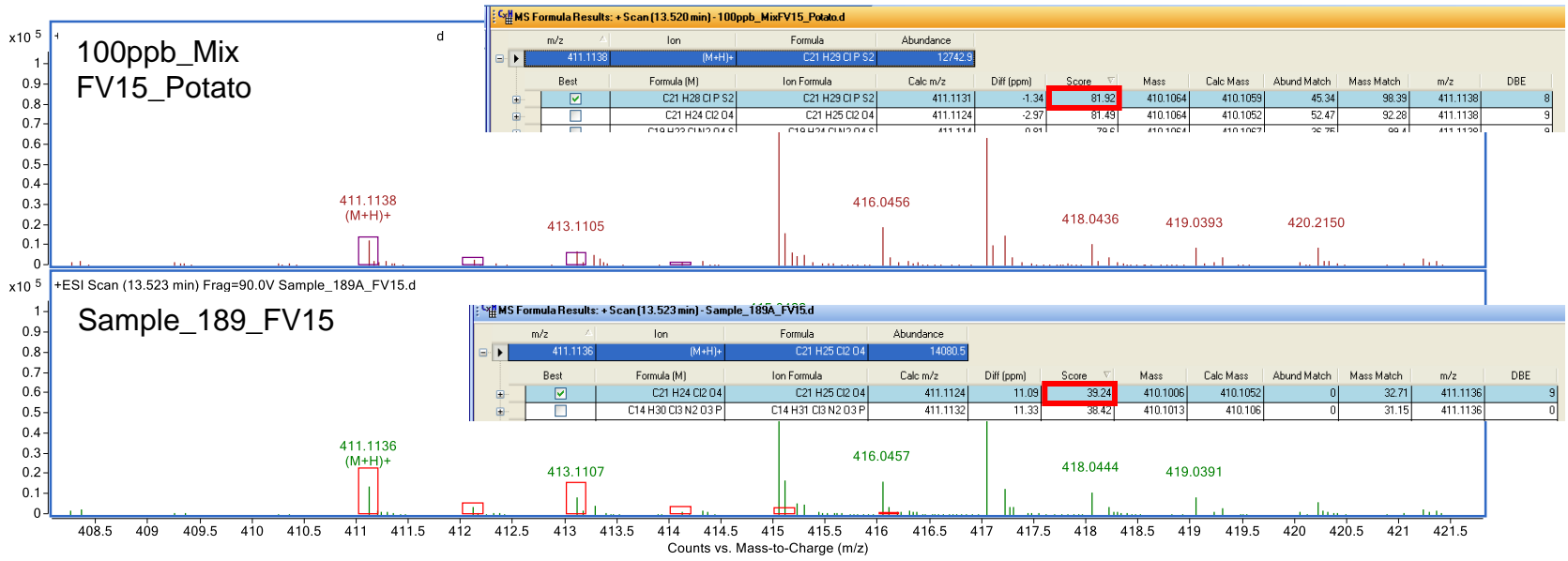
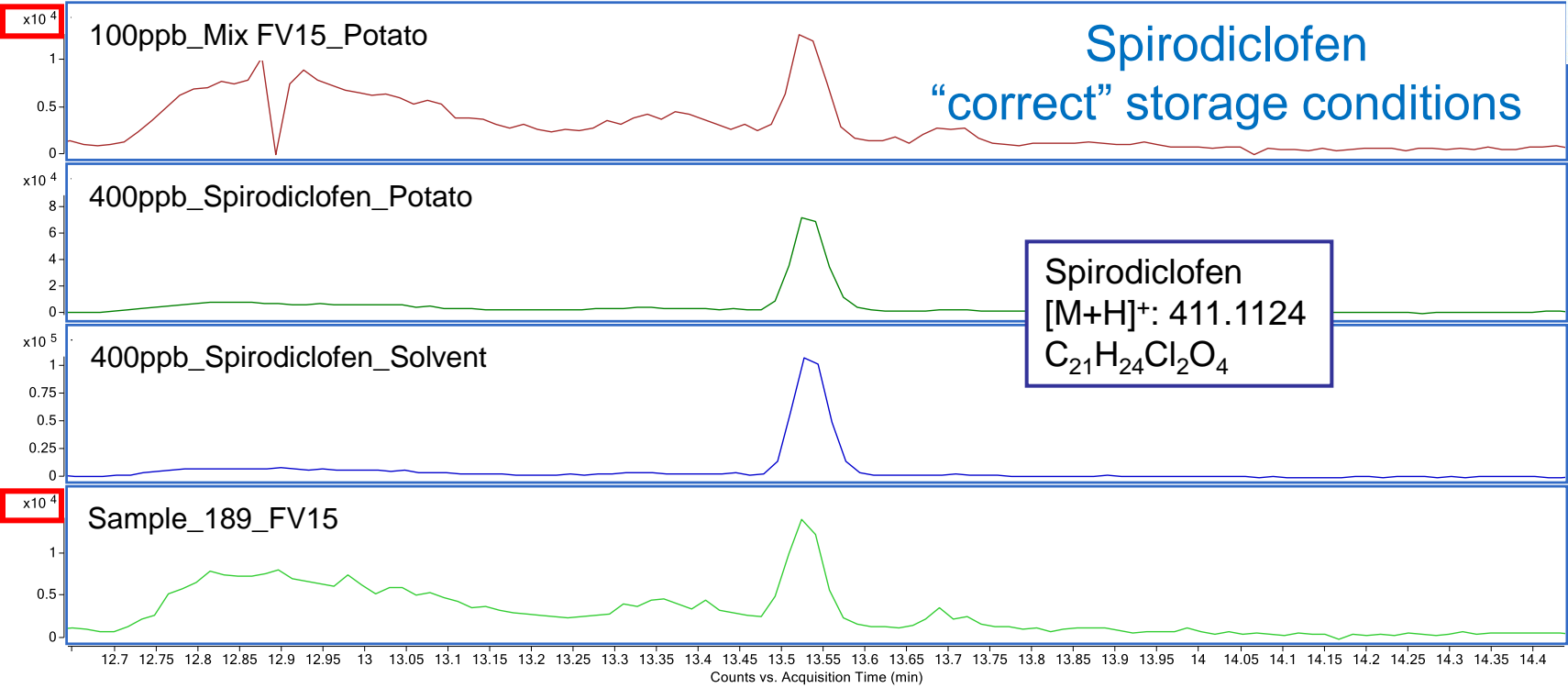
2nd Analysis - after the deadline to submit the results

All the pesticides passed the stability test

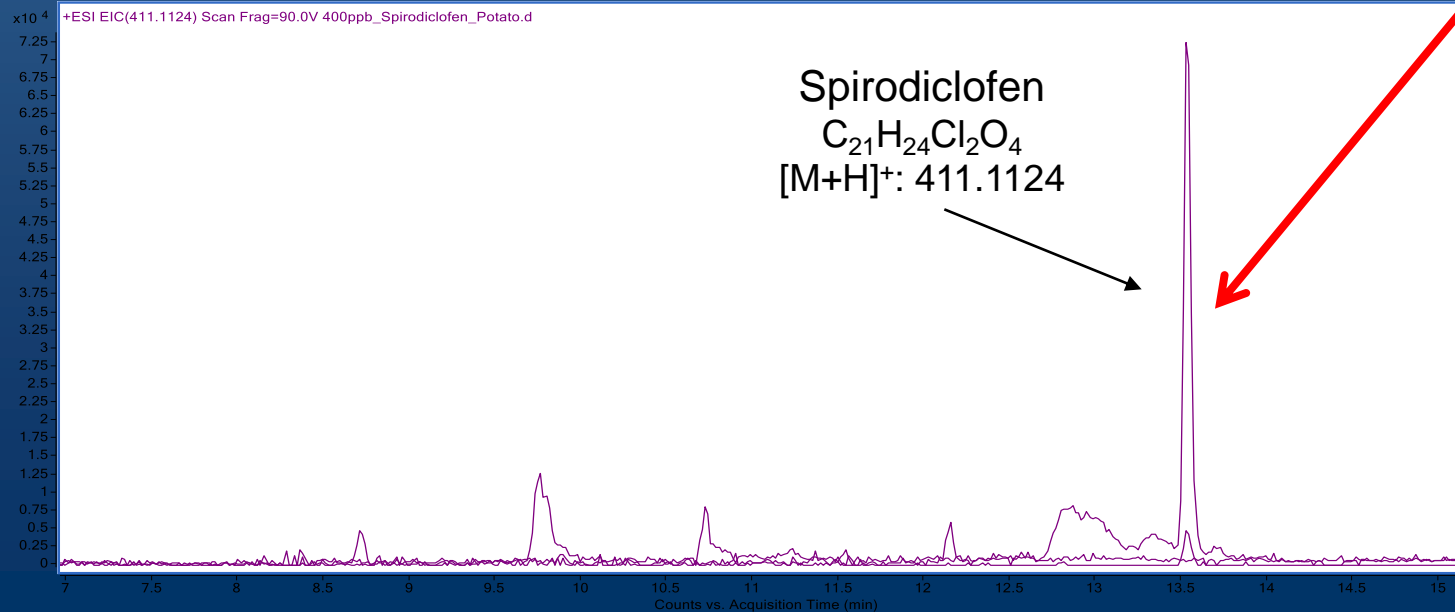
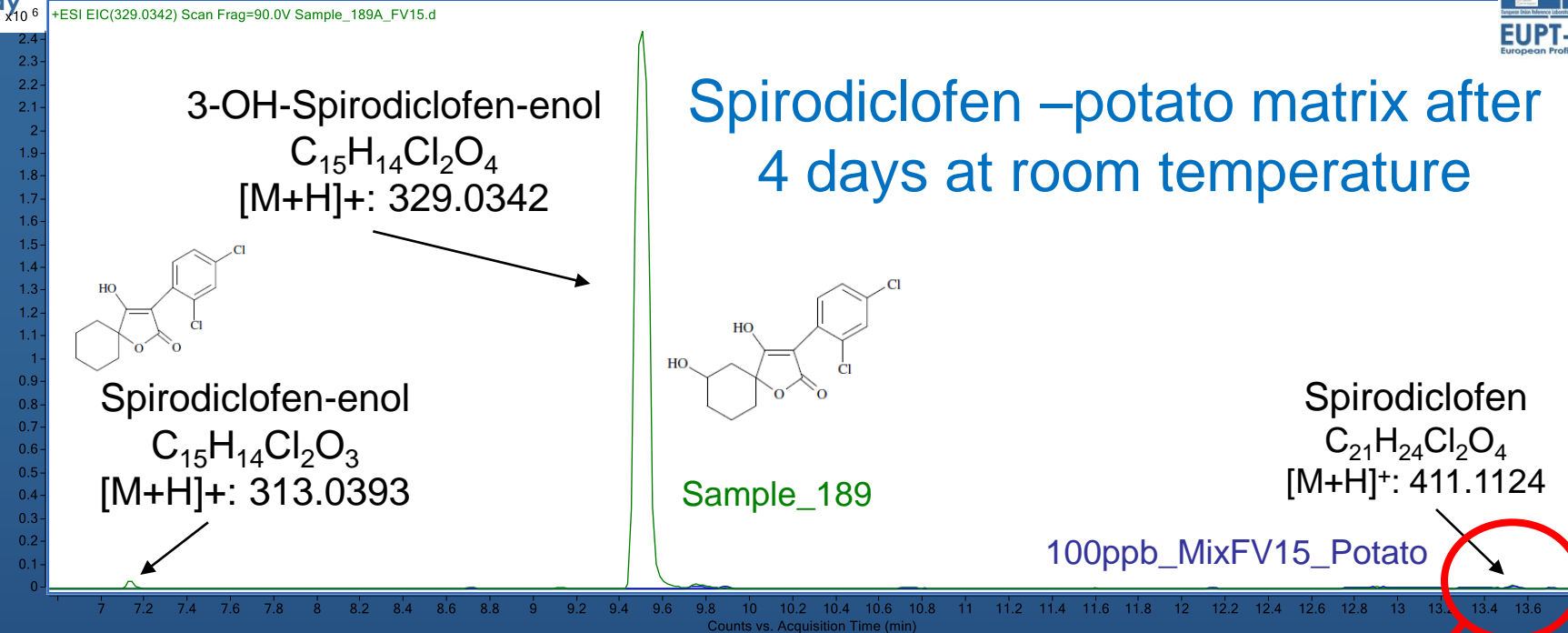
Stability

Additionally:

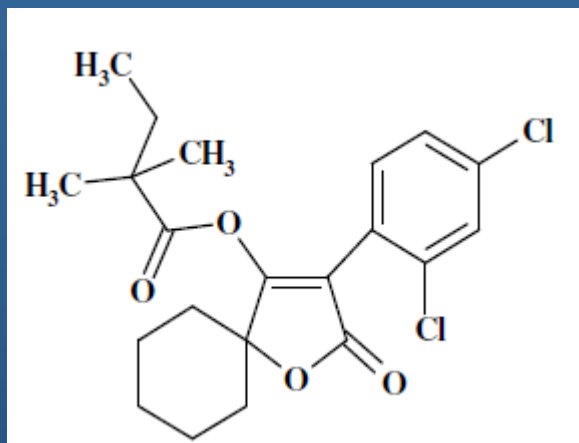
3rd Analysis - keep the sample at room temperature for several days.



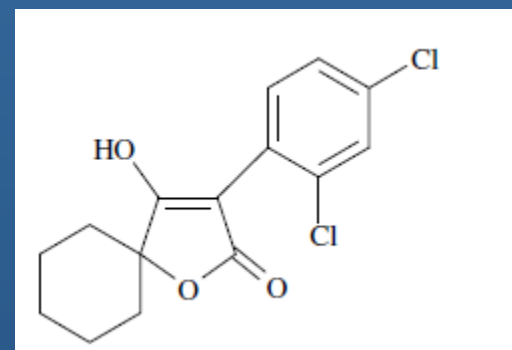
7th May



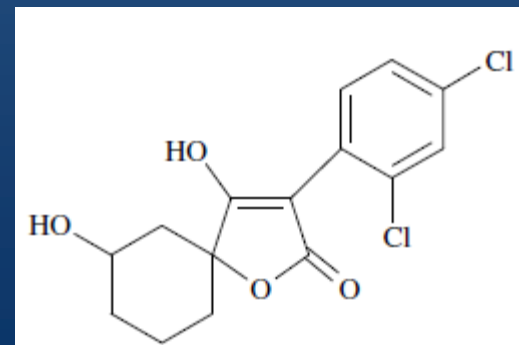
7th May



Spirodiclofen



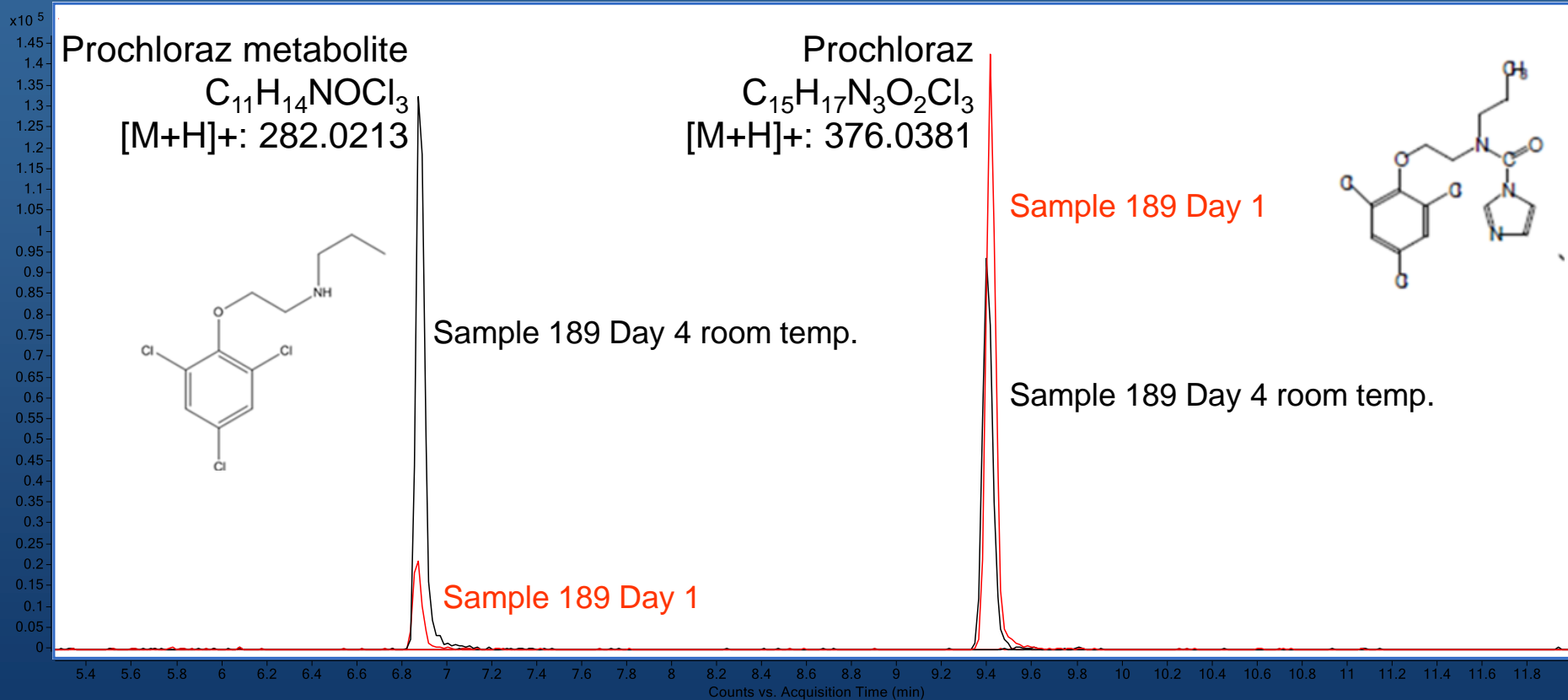
Spirodiclofen-enol



3-hydroxy-spirodiclofen-enol

7th May

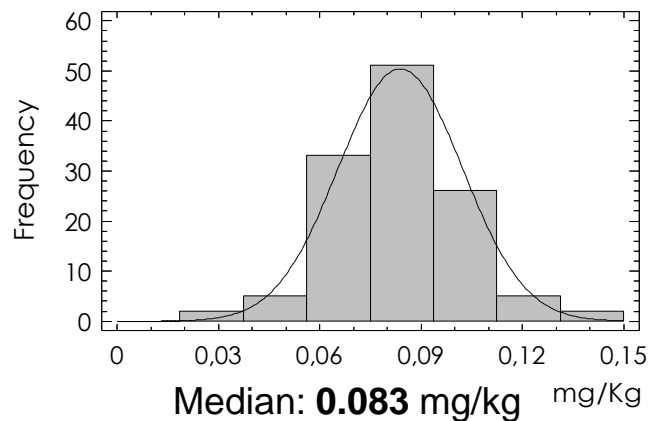
PROCHLORAZ- Potato sample at room temperature during 4 days



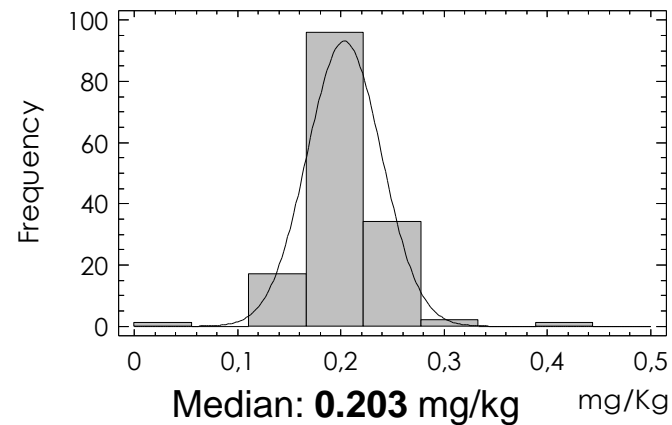
PRELIMINARY RESULTS

7th May

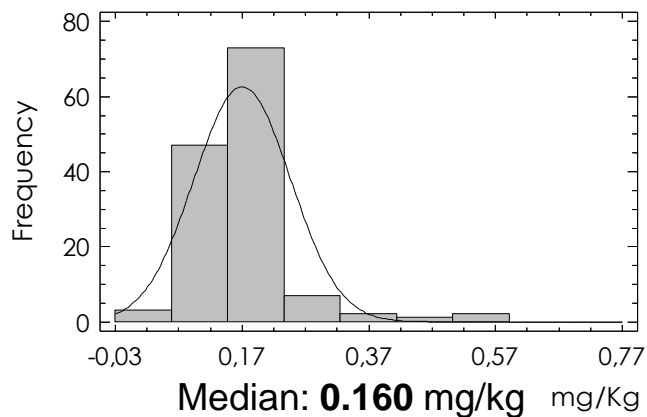
Acephate



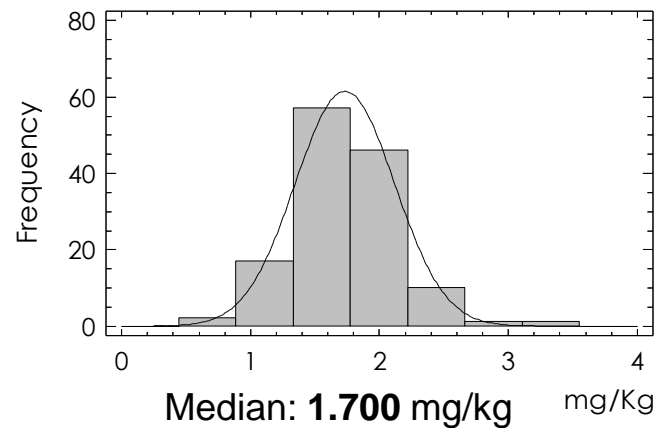
Azoxystrobin



Chlorothalonil

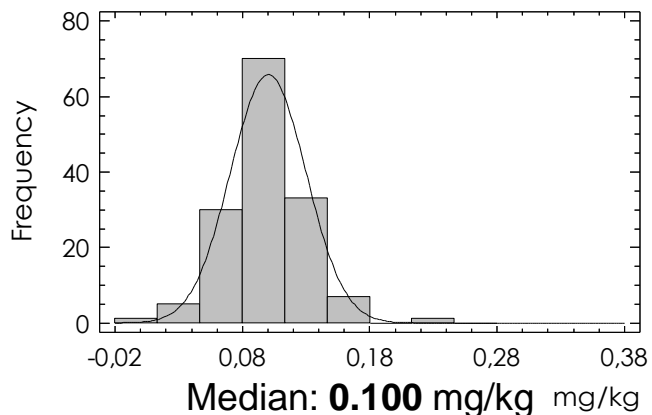


Chlorpropham

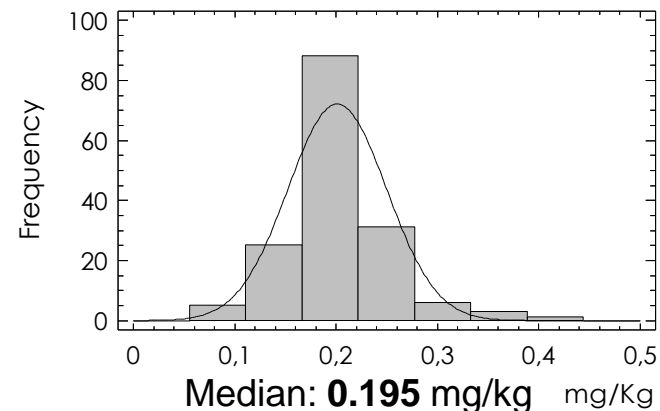


7th May

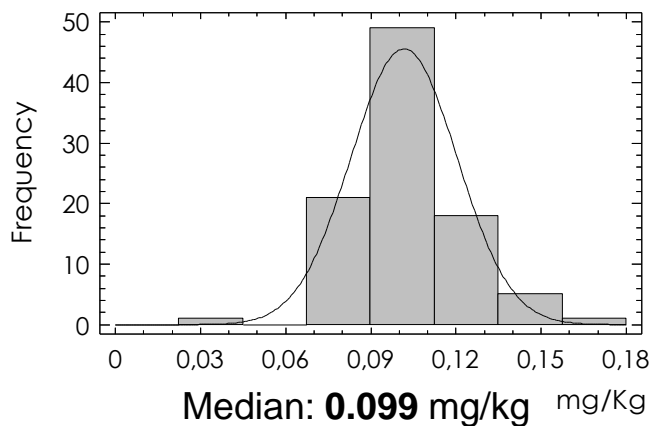
Cypermethrin



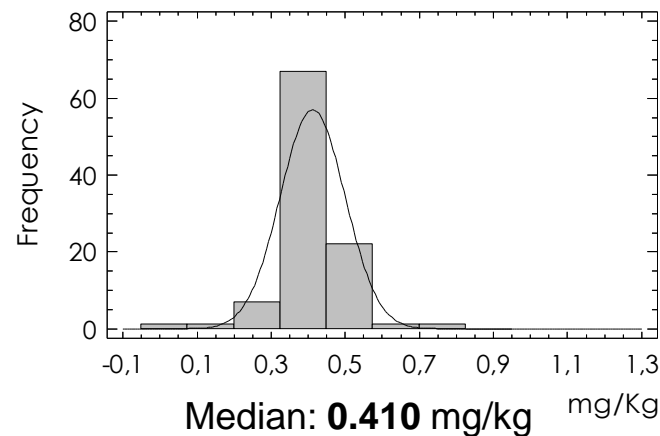
Diazinon



Fluopicolide

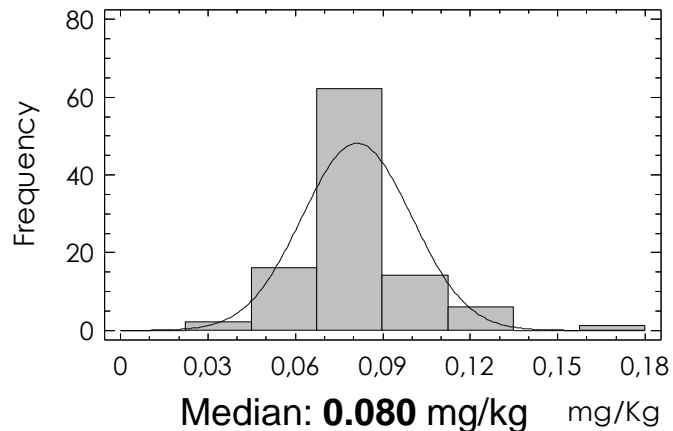


Flutolanil

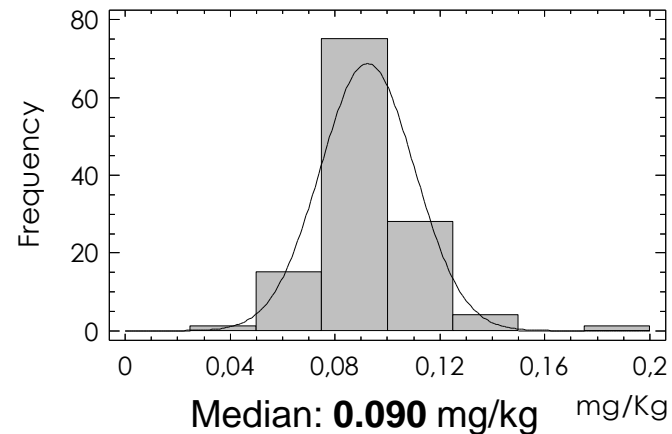


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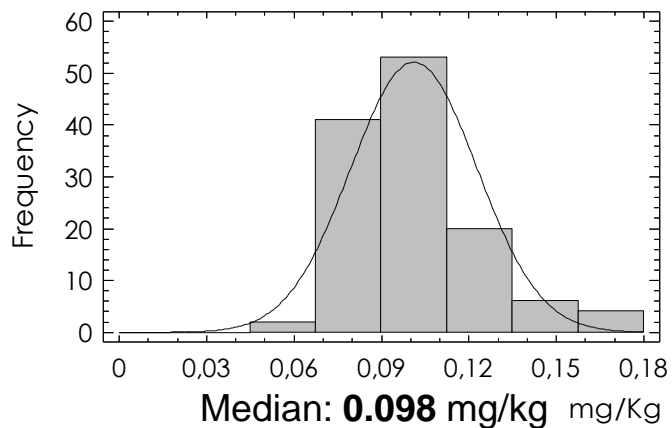
Fosthiazate



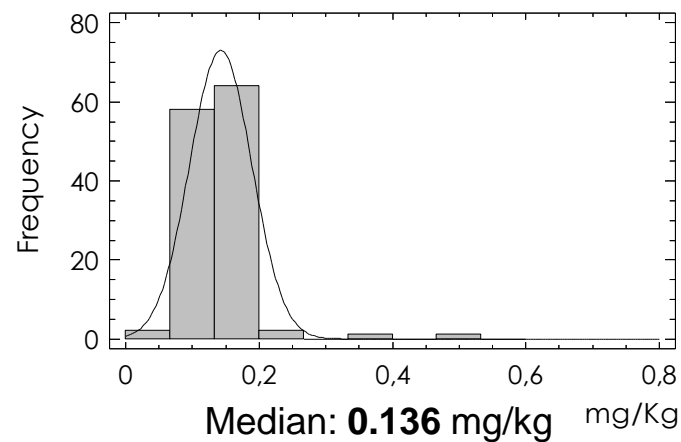
Iprovalicarb



Linuron

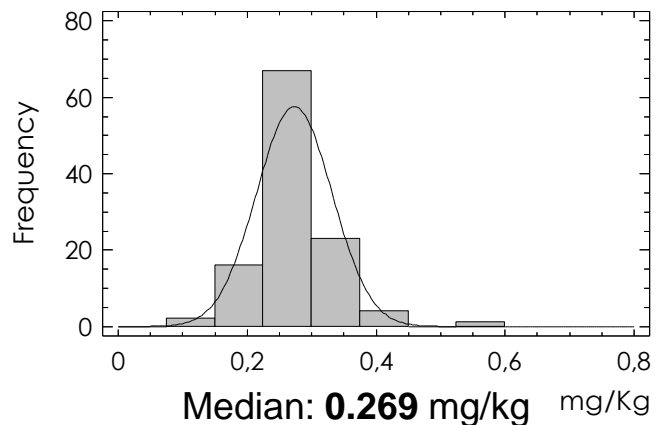


Methiocarb

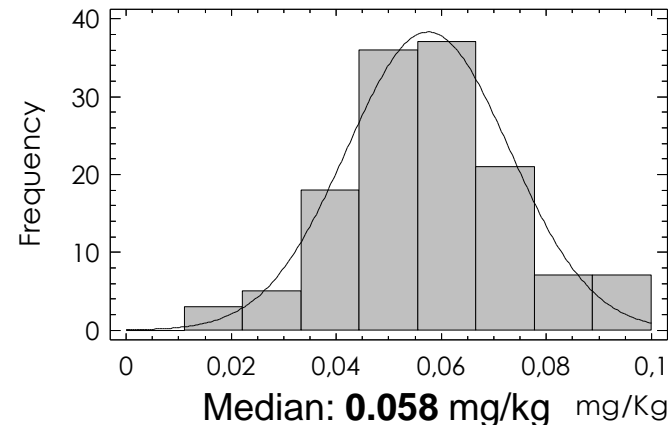


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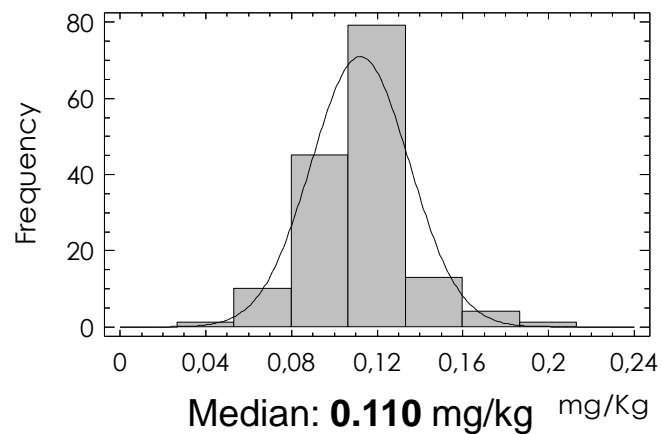
Pencycuron



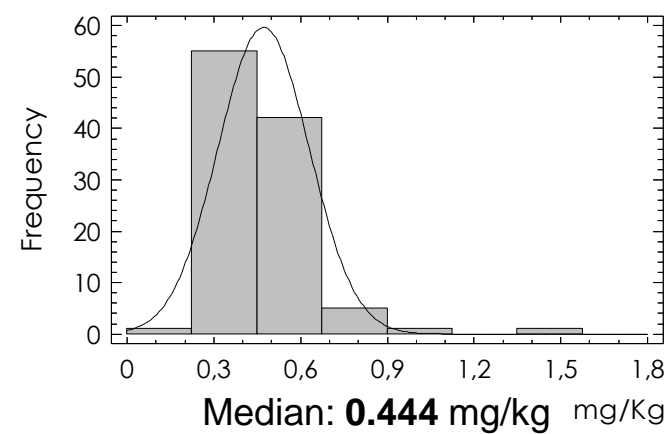
Prochloraz



Procymidone

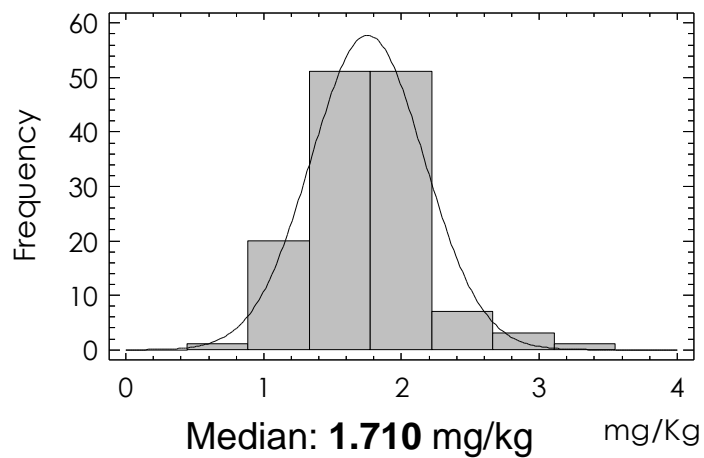


Spirodiclofen

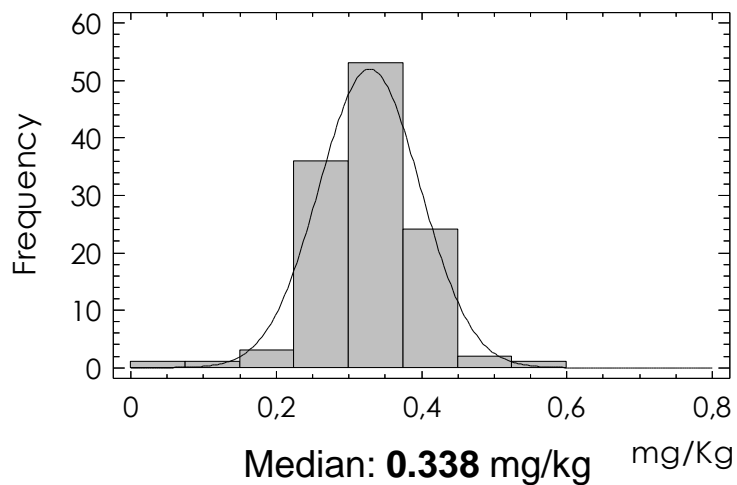


7th May

Thiabendazole



Thiacloprid



Pesticides	No. of Reported Results	No. of False Negative Results	No. of Not Analysed Results	Percentage of Reported Results (out of 173)
Acephate	132	8	33	76
Azoxystrobin	162	1	10	94
Chlorothalonil	144	6	23	83
Chlorpropham	141	3	29	82
Cypermethrin	157	6	10	91
Diazinon	172	0	1	99
Fluopicolide	101	1	71	58
Flutolanil	106	1	66	61
Fosthiazate	105	2	66	61
Iprovalicarb	133	0	40	77
Linuron	134	1	38	77
Methiocarb	137	5	31	79
Pencycuron	121	0	52	70
Prochloraz	144	3	26	83
Procymidone	161	2	10	93
Spirodiclofen	113	2	58	65
Thiabendazole	144	3	26	83

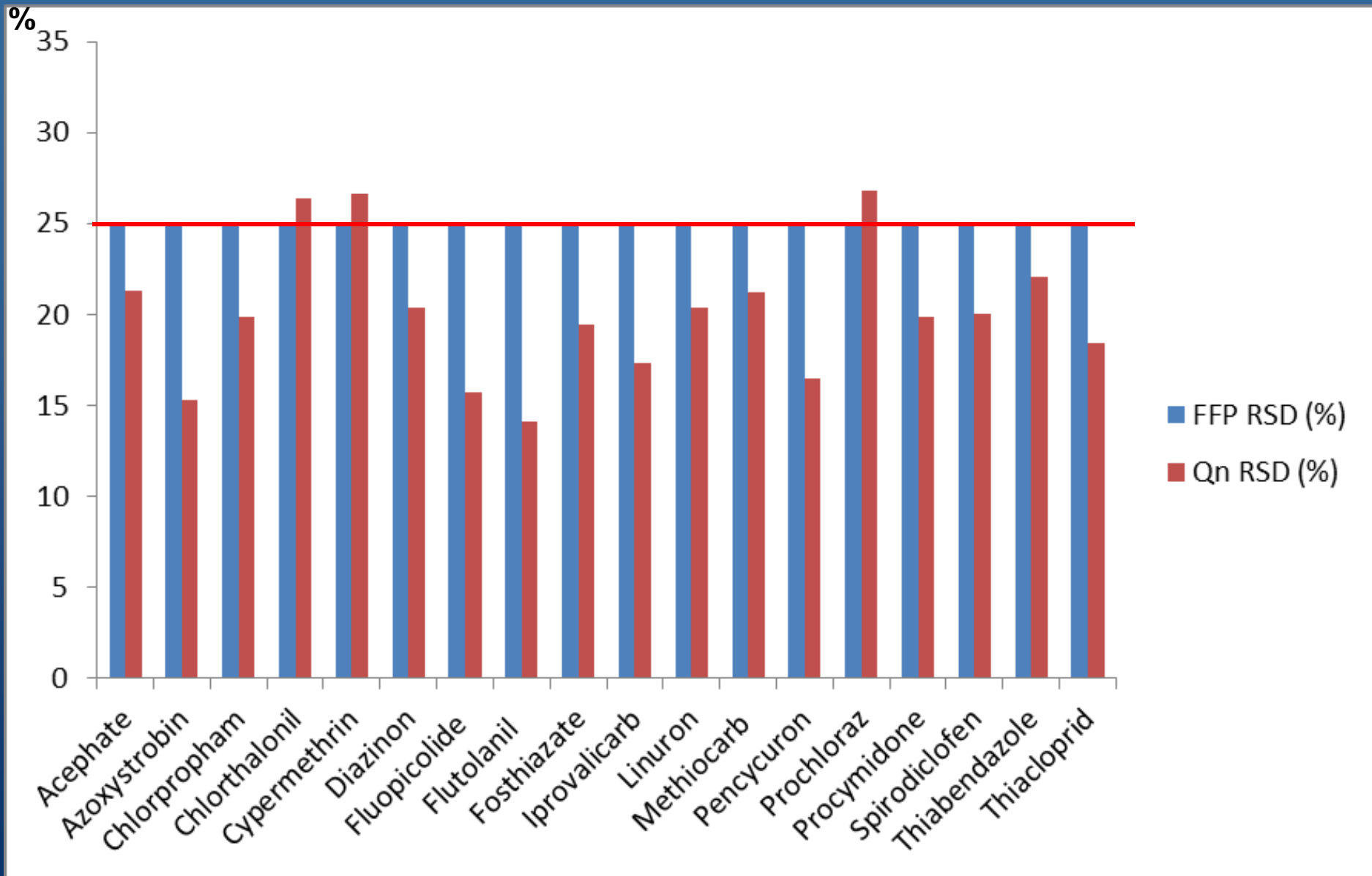
Preliminary Results

7th May

Preliminary Results

Pesticides	MRRL (mg/kg)	Median (mg/kg)	FFP RSD (%)	Qn RSD (%)
Acephate	0.01	0.083	25	21.3
Azoxystrobin	0.01	0.203	25	15.3
Chlorothalonil	0.01	0.160	25	26.4
Chlorpropham	0.01	1.700	25	19.9
Cypermethrin	0.01	0.100	25	26.6
Diazinon	0.01	0.195	25	20.4
Fluopicolide	0.01	0.099	25	15.7
Flutolanil	0.01	0.410	25	14.1
Fosthiazate	0.01	0.080	25	19.4
Iprovalicarb	0.01	0.090	25	17.3
Linuron	0.01	0.098	25	20.4
Methiocarb	0.01	0.136	25	21.2
Pencycuron	0.01	0.269	25	16.5
Prochloraz	0.01	0.058	25	26.8
Procymidone	0.01	0.110	25	19.9
Spirodiclofen	0.01	0.444	25	20.0
Thiabendazole	0.01	1.710	25	22.1
Thiacloprid	0.01	0.338	25	18.4

7th May



7th May

z-Scores

Pesticides	Median (mg/kg)	Acceptable (%)	Questionable (%)	Unacceptable (%)
Acephate	0.083	90.7	3.6	5.7
Azoxystrobin	0.203	97.5	0.0	2.5
Chlorothalonil	0.160	84.0	6.7	9.3
Chlorpropham	1.700	93.8	2.8	3.5
Cypermethrin	0.100	89.0	5.5	5.5
Diazinon	0.195	95.3	2.9	1.7
Fluopicolide	0.099	94.1	3.9	2.0
Flutolanil	0.410	96.3	1.9	1.9
Fosthiazate	0.080	95.3	1.9	2.8
Iprovalicarb	0.090	97.0	2.3	0.8
Linuron	0.098	95.6	3.7	0.7
Methiocarb	0.136	93.0	2.1	4.9
Pencycuron	0.269	97.5	1.6	0.8
Prochloraz	0.058	89.8	8.2	2.0
Procymidone	0.110	95.1	3.1	1.8
Spirodiclofen	0.444	91.3	4.3	4.3
Thiabendazole	1.710	93.2	4.1	2.7
Thiacloprid	0.338	94.0	2.2	3.7

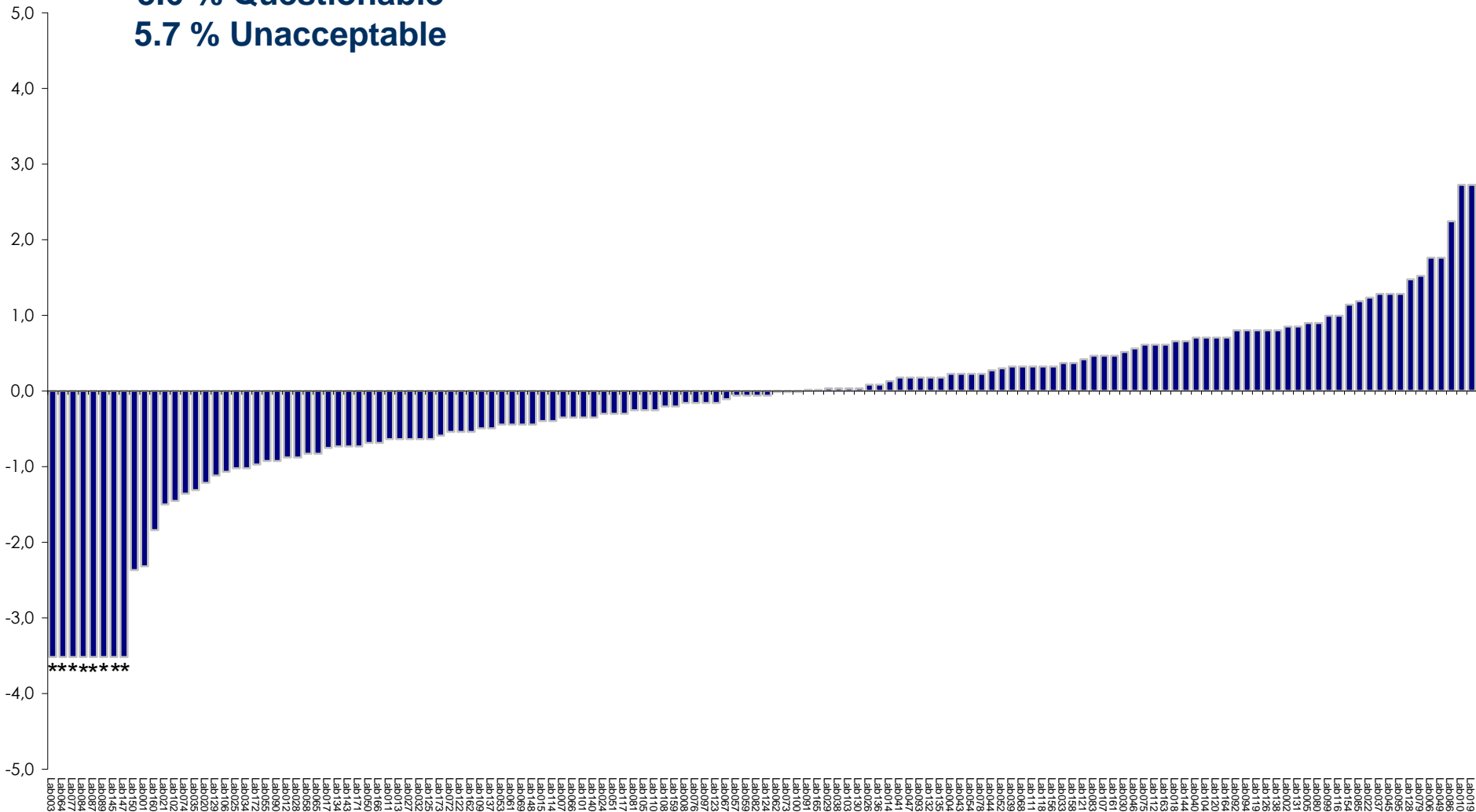
Pesticides	Median (mg/kg)	Acceptable (%)	Questionable (%)	Unacceptable (%)
Acephate	0.083	90.7	3.6	5.7
Azoxystrobin	0.203	97.5	0.0	2.5
Chlorothalonil	0.160	84.0	6.7	9.3
Chlorpropham	1.700	93.8	2.8	3.5
Cypermethrin	0.100	89.0	5.5	5.5
Diazinon	0.195	95.3	2.9	1.7
Fluopicolide	0.099	94.1	3.9	2.0
Flutolanil	0.410	96.3	1.9	1.9
Fosthiazate	0.080	95.3	1.9	2.8
Iprovalicarb	0.090	97.0	2.3	0.8
Linuron	0.098	95.6	3.7	0.7
Methiocarb	0.136	93.0	2.1	4.9
Pencycuron	0.269	97.5	1.6	0.8
Prochloraz	0.058	89.8	8.2	2.0
Procymidone	0.110	95.1	3.1	1.8
Spirodiclofen	0.444	91.3	4.3	4.3
Thiabendazole	1.710	93.2	4.1	2.7
Thiacloprid	0.338	94.0	2.2	3.7

7th May

Acephate

Median: 0.083 mg/kg

90.7 % Acceptable
3.6 % Questionable
5.7 % Unacceptable



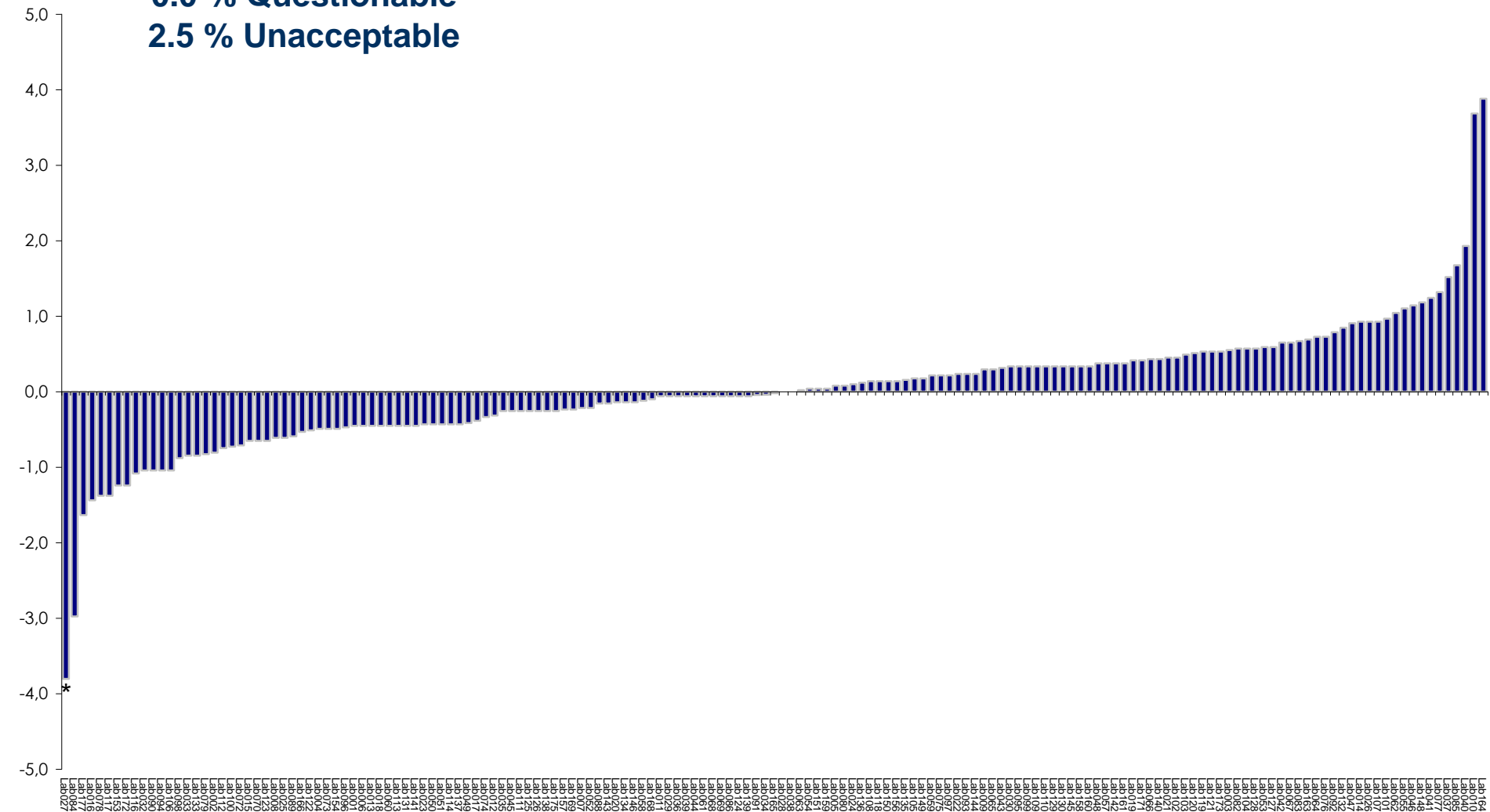
* False Negatives

7th May

Azoxystrobin

Median: 0.203 mg/kg

97.5 % Acceptable
0.0 % Questionable
2.5 % Unacceptable



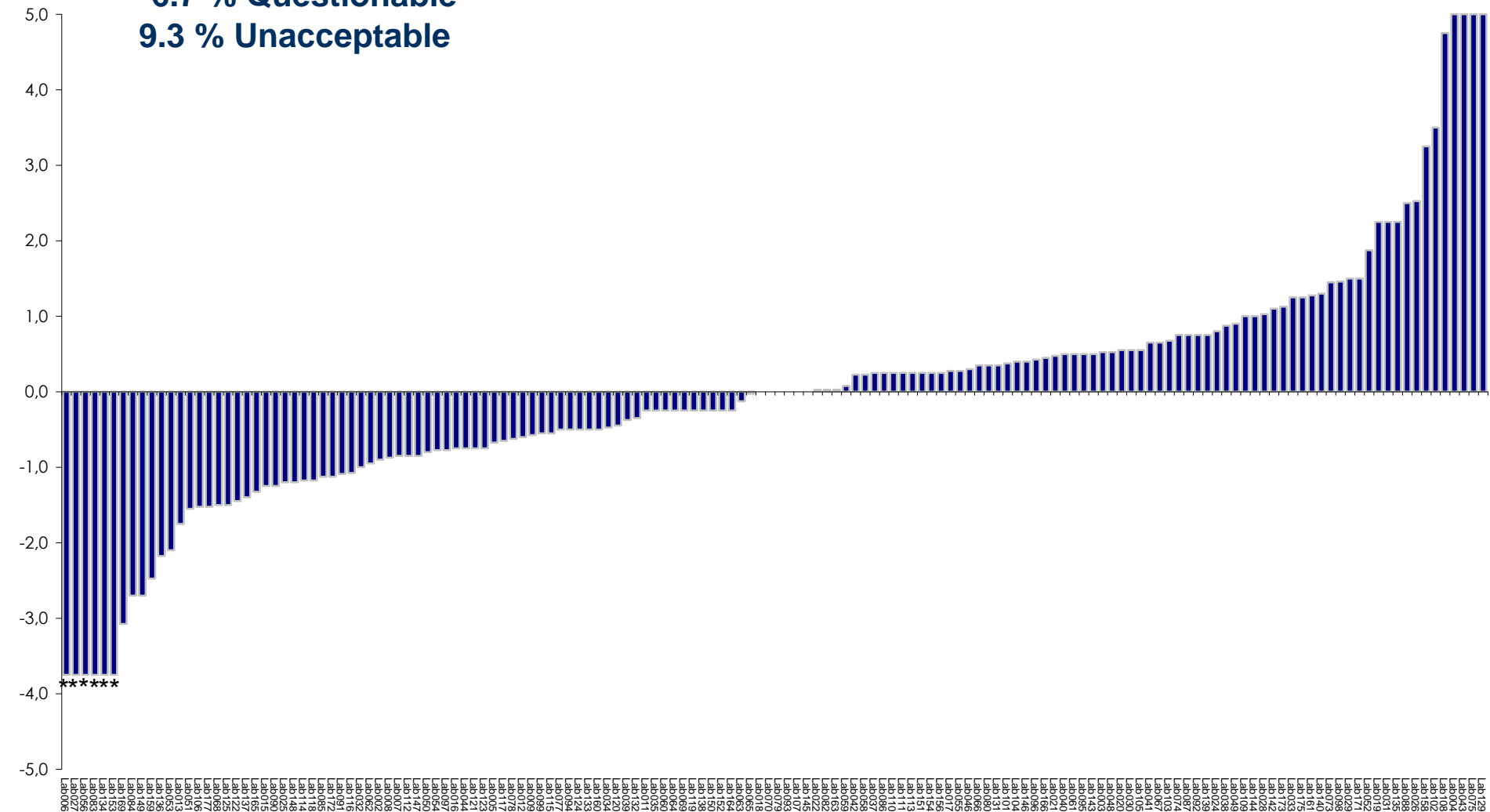
* False Negatives

7th May

Chlorothalonil

Median: 0.160 mg/kg

84.0 % Acceptable
6.7 % Questionable
9.3 % Unacceptable



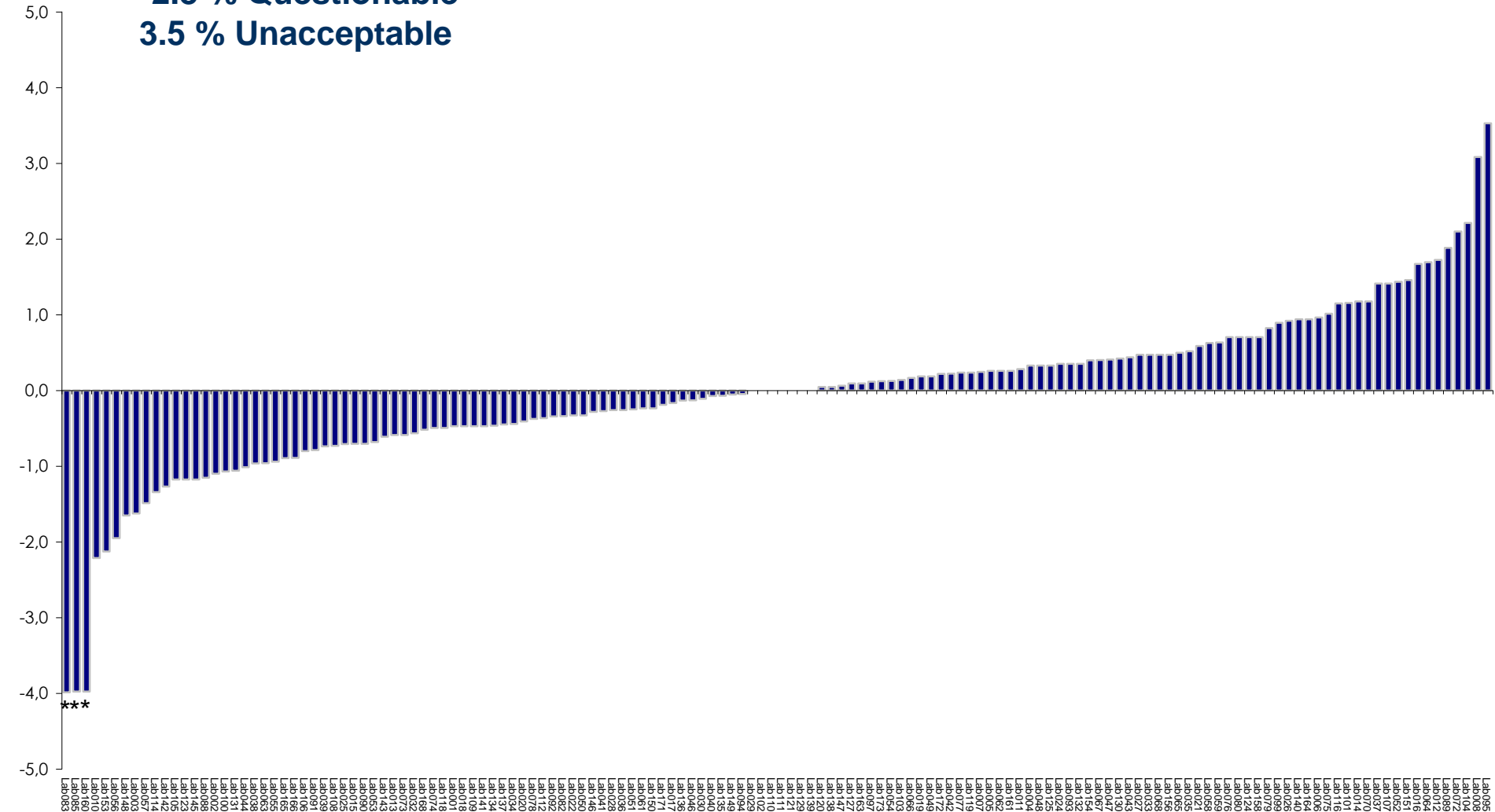
* False Negatives

7th May

Chlorpropham

Median: 1.700 mg/kg

93.8 % Acceptable
2.8 % Questionable
3.5 % Unacceptable



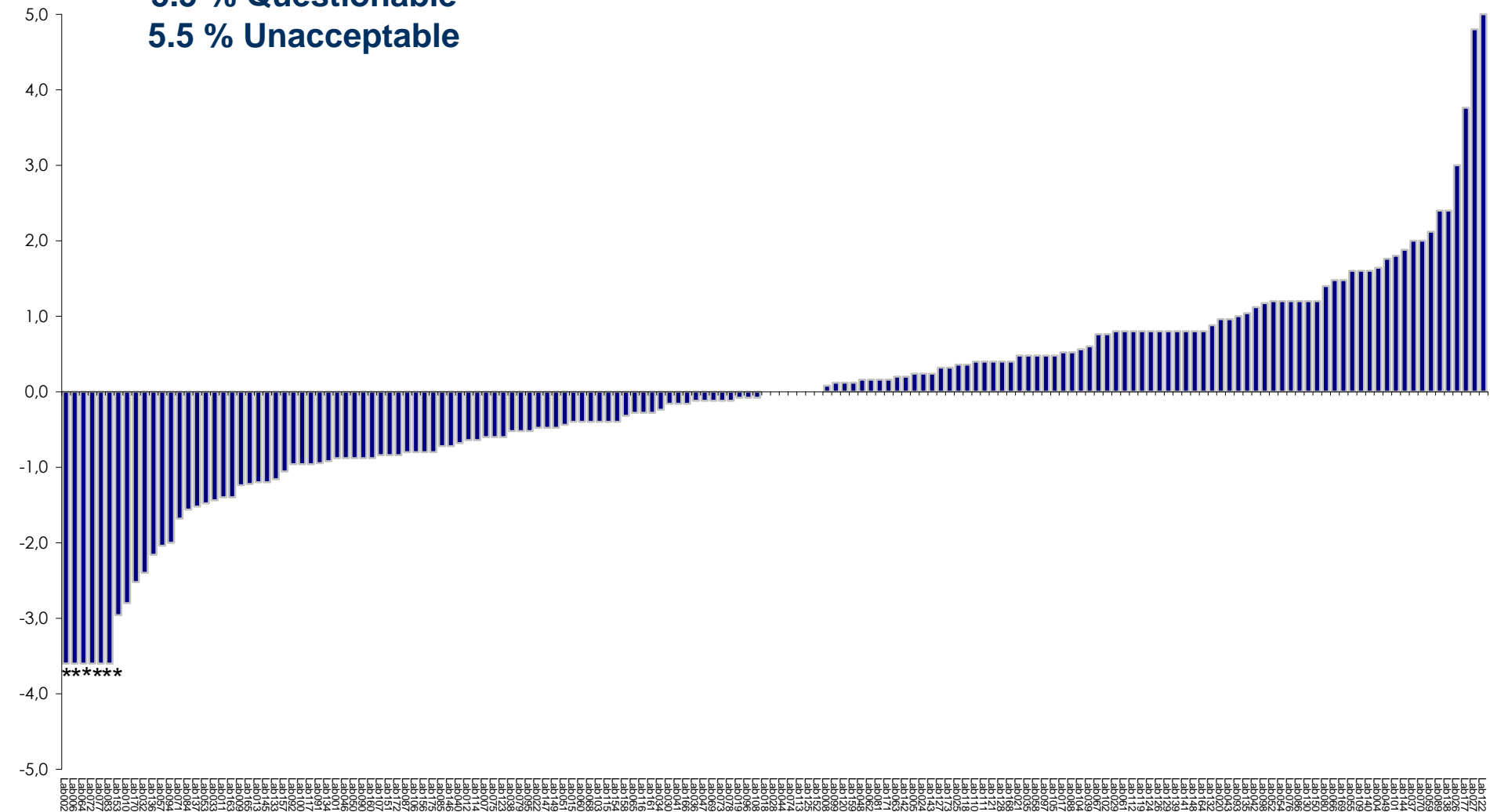
* False Negatives

7th May

Cypermethrin

Median: 0.100 mg/kg

89.0 % Acceptable
5.5 % Questionable
5.5 % Unacceptable



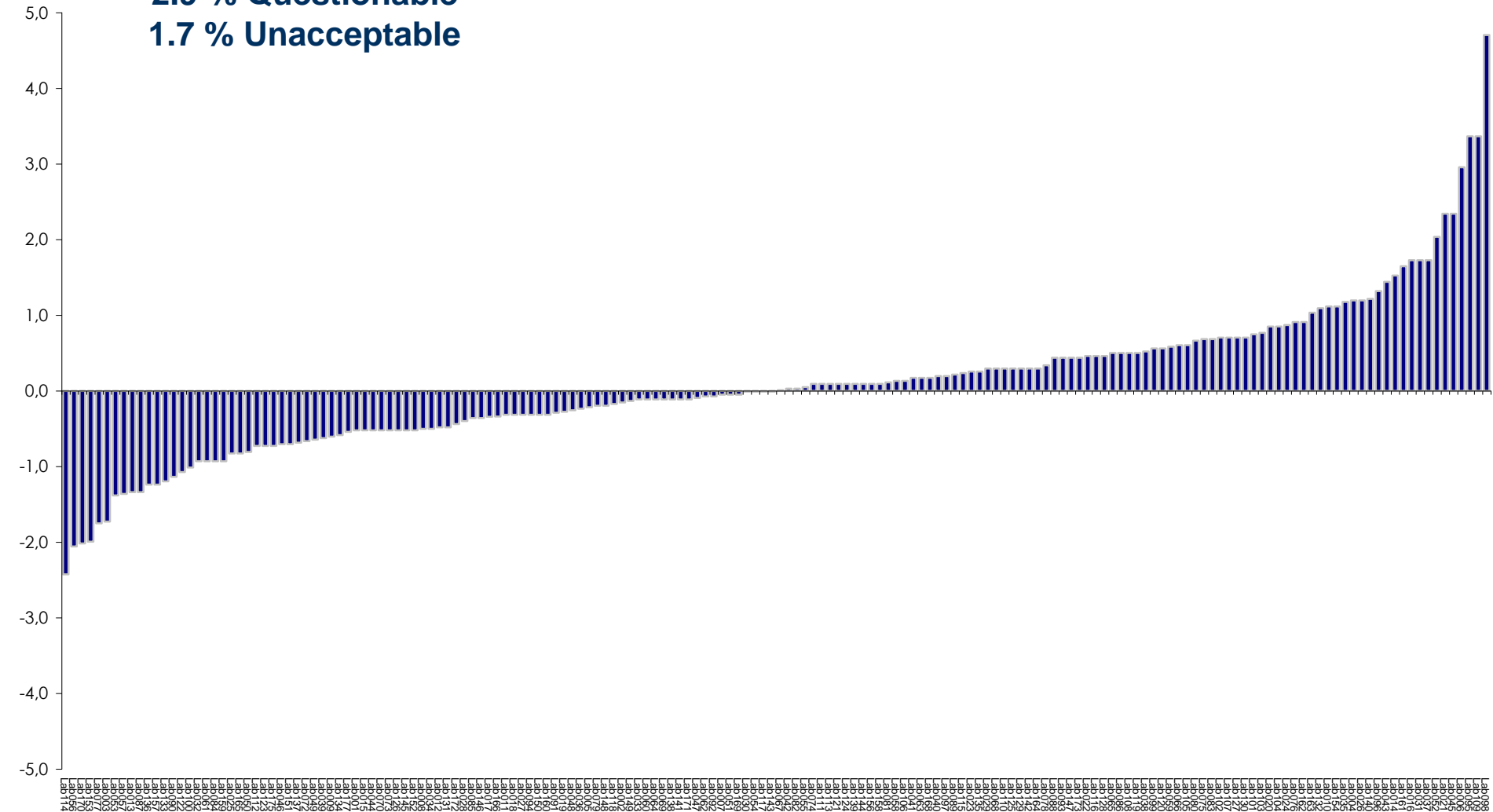
* False Negatives

7th May

Diazinon

95.3 % Acceptable
2.9 % Questionable
1.7 % Unacceptable

Median: 0.195 mg/kg

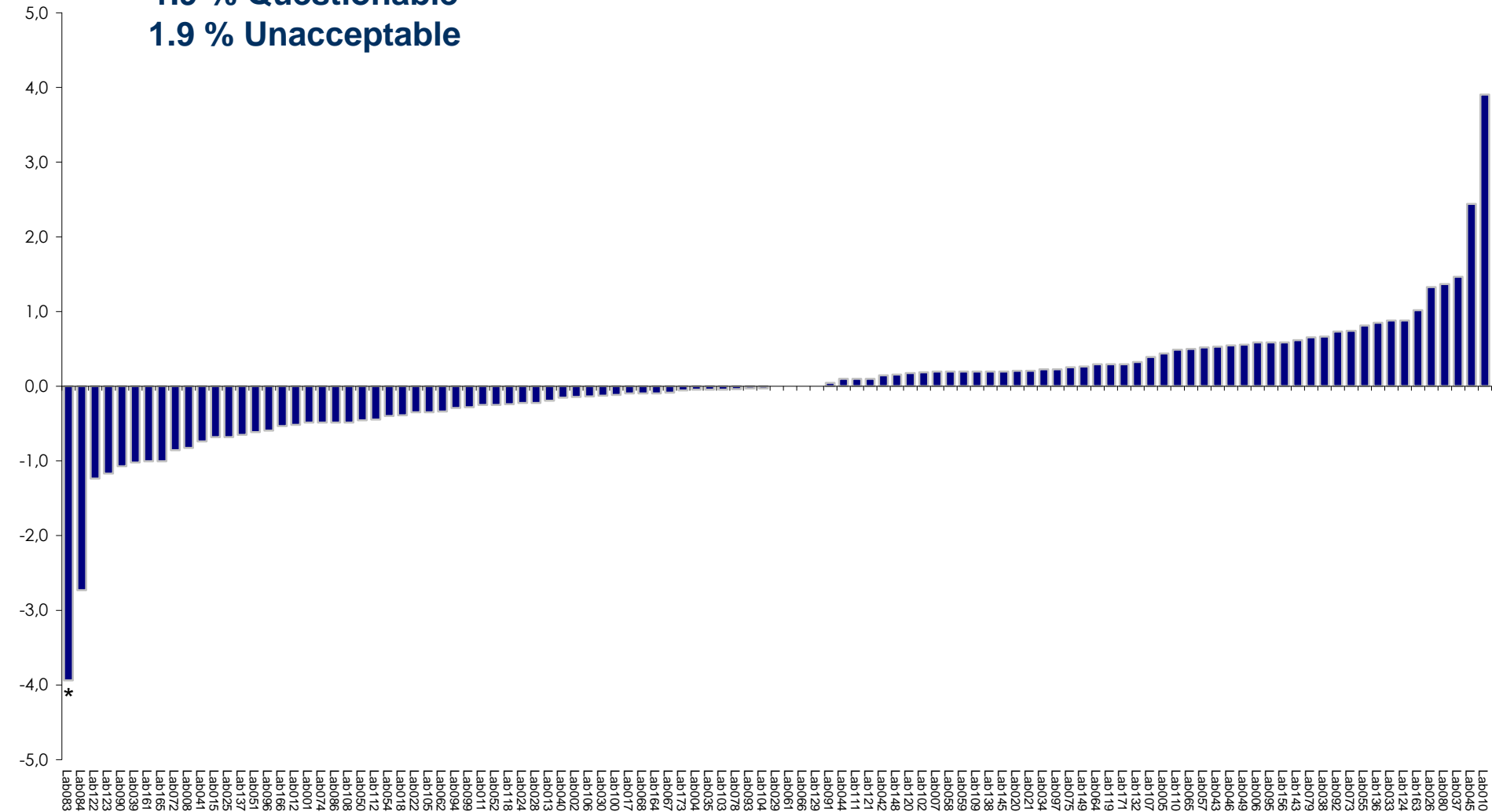


7th May

Flutolanil

Median: 0.410 mg/kg

96.3 % Acceptable
 1.9 % Questionable
 1.9 % Unacceptable



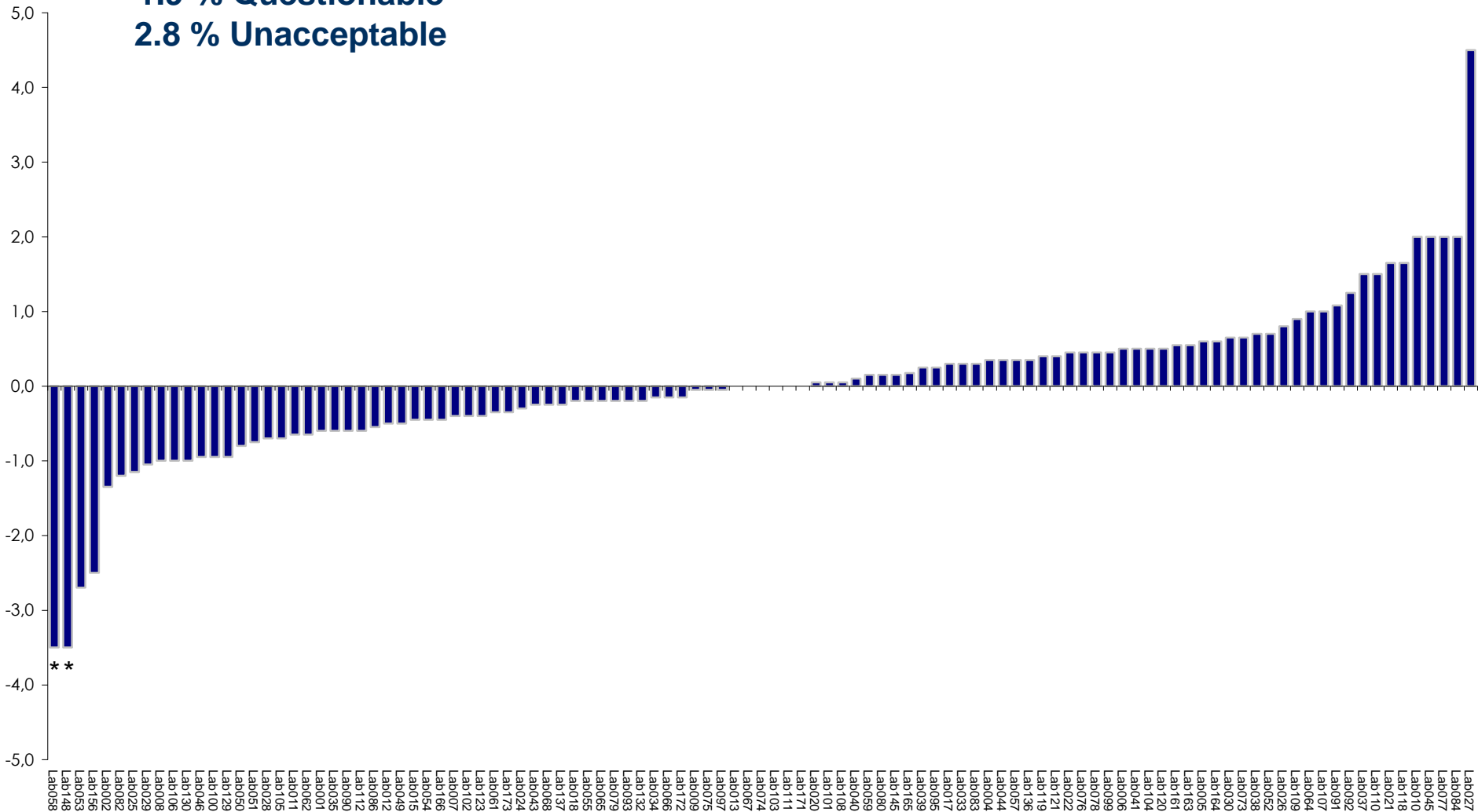
* False Negatives

7th May

Fosthiazate

Median: 0.080 mg/kg

95.3 % Acceptable
1.9 % Questionable
2.8 % Unacceptable



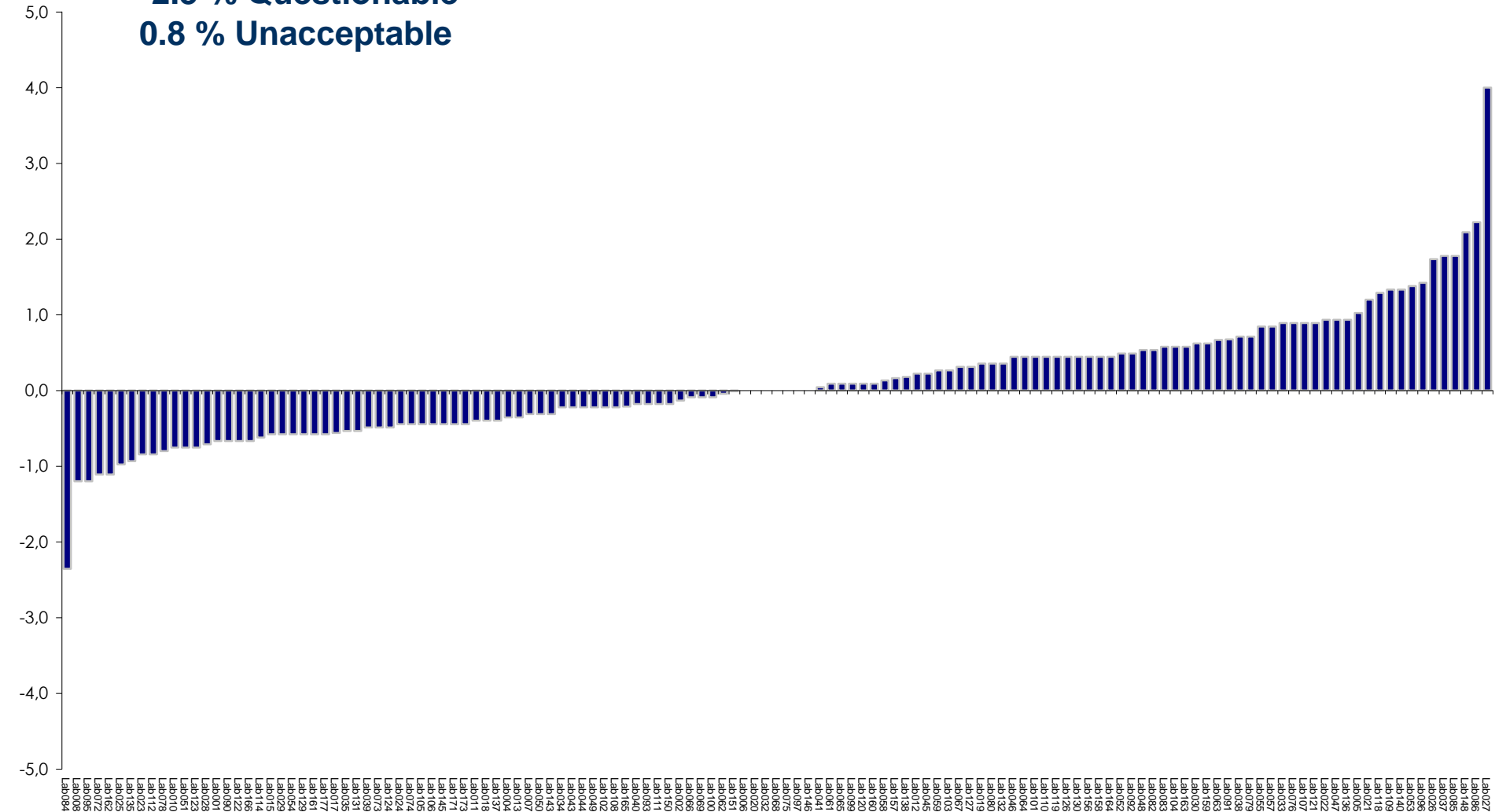
* False Negatives

7th May

Iprovalicarb

Median: 0.090 mg/kg

97.0 % Acceptable
2.3 % Questionable
0.8 % Unacceptable

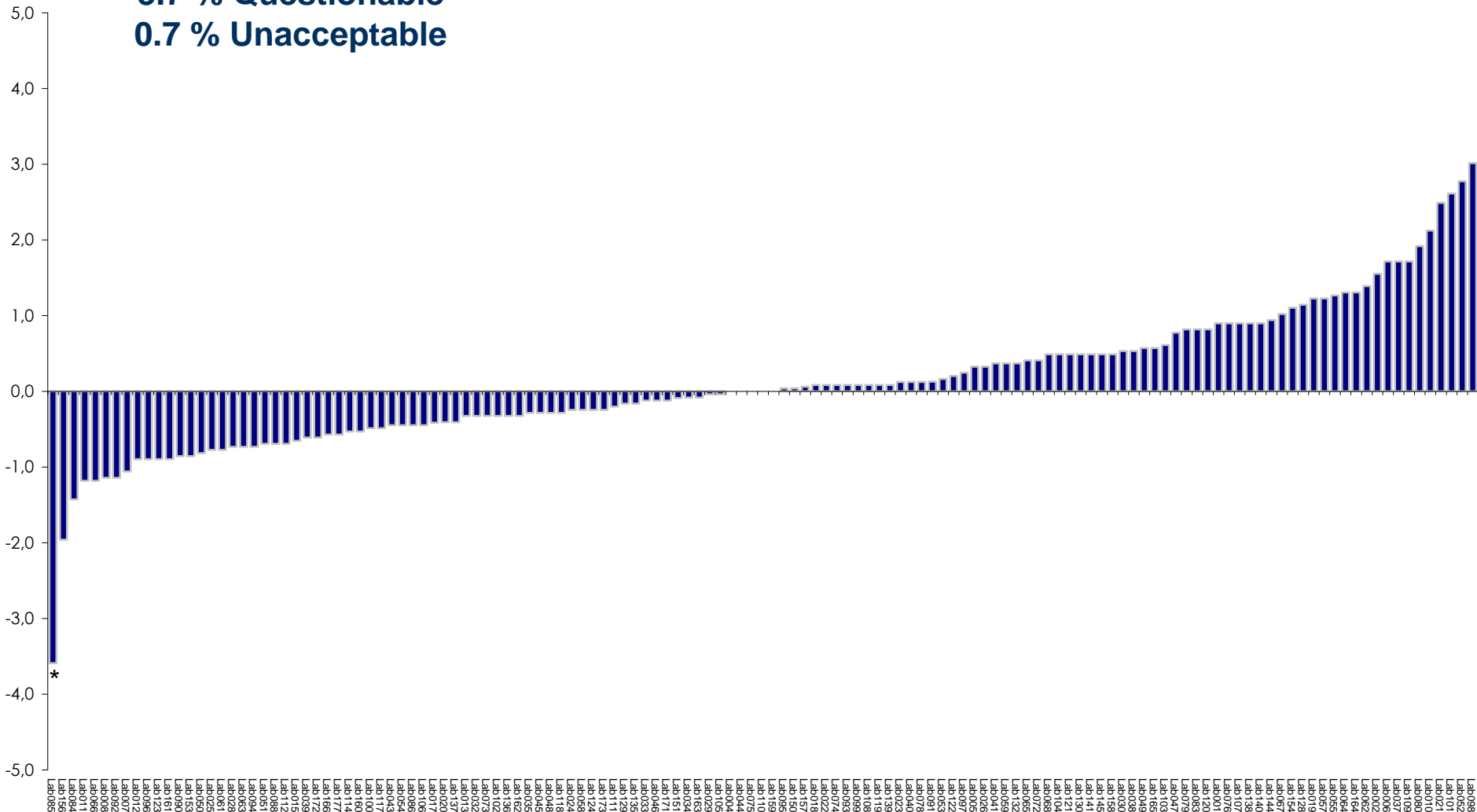


7th May

Linuron

Median: 0.098 mg/kg

95.6 % Acceptable
3.7 % Questionable
0.7 % Unacceptable



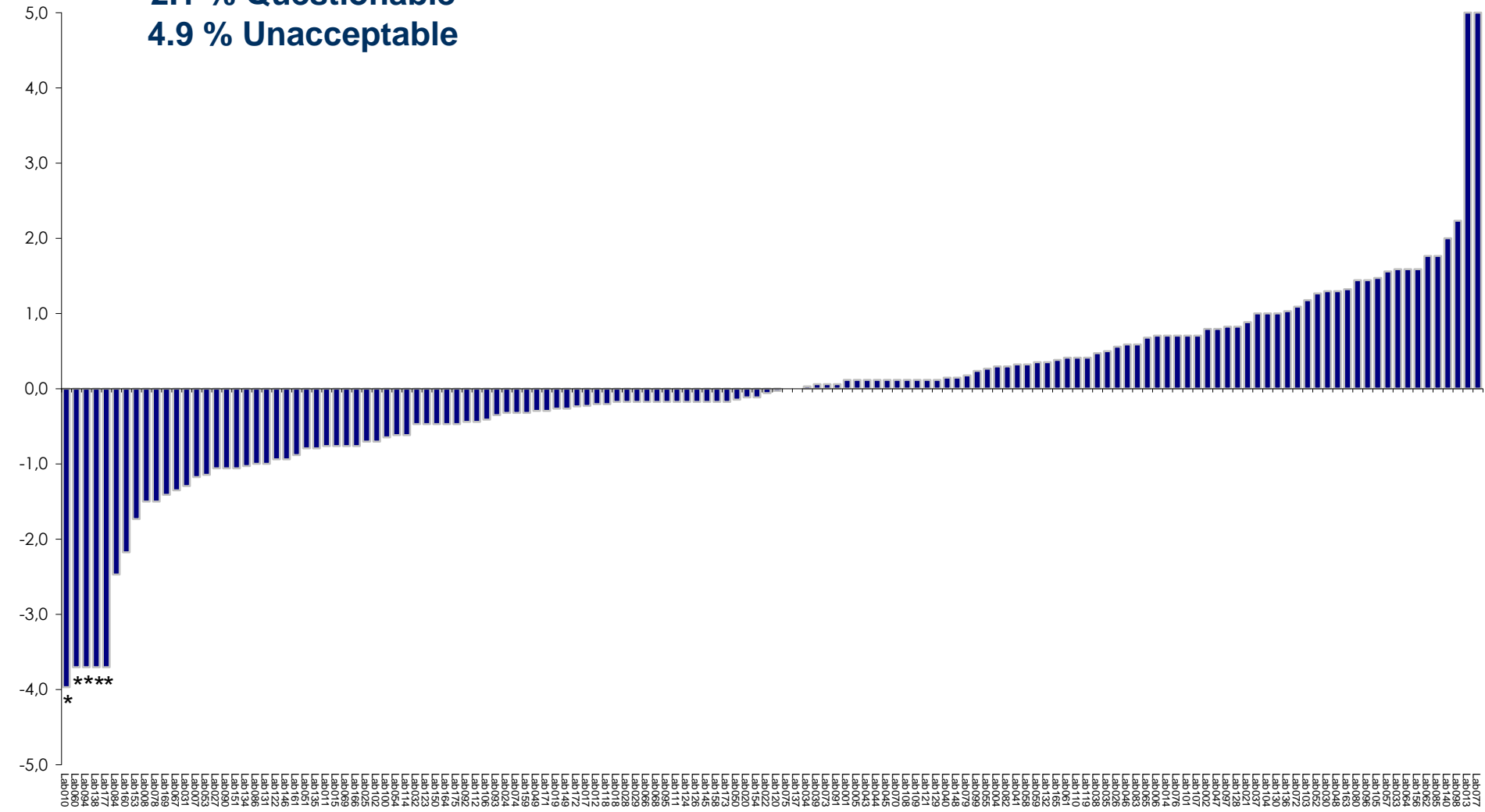
* False Negatives

7th May

Methiocarb

Median: 0.136 mg/kg

93.0 % Acceptable
2.1 % Questionable
4.9 % Unacceptable



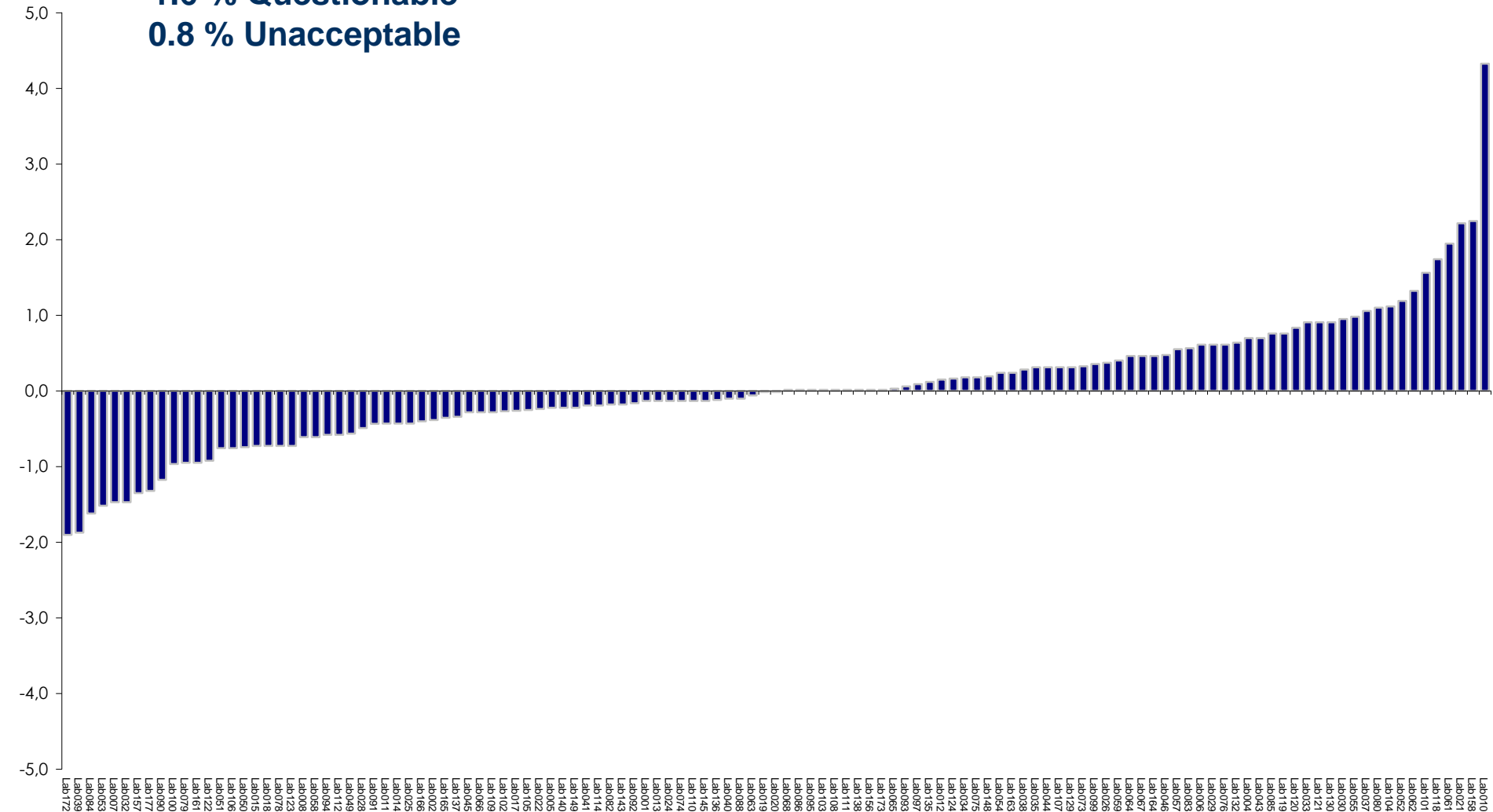
* False Negatives

7th May

Pencycuron

97.5 % Acceptable
1.6 % Questionable
0.8 % Unacceptable

Median: 0.269 mg/kg

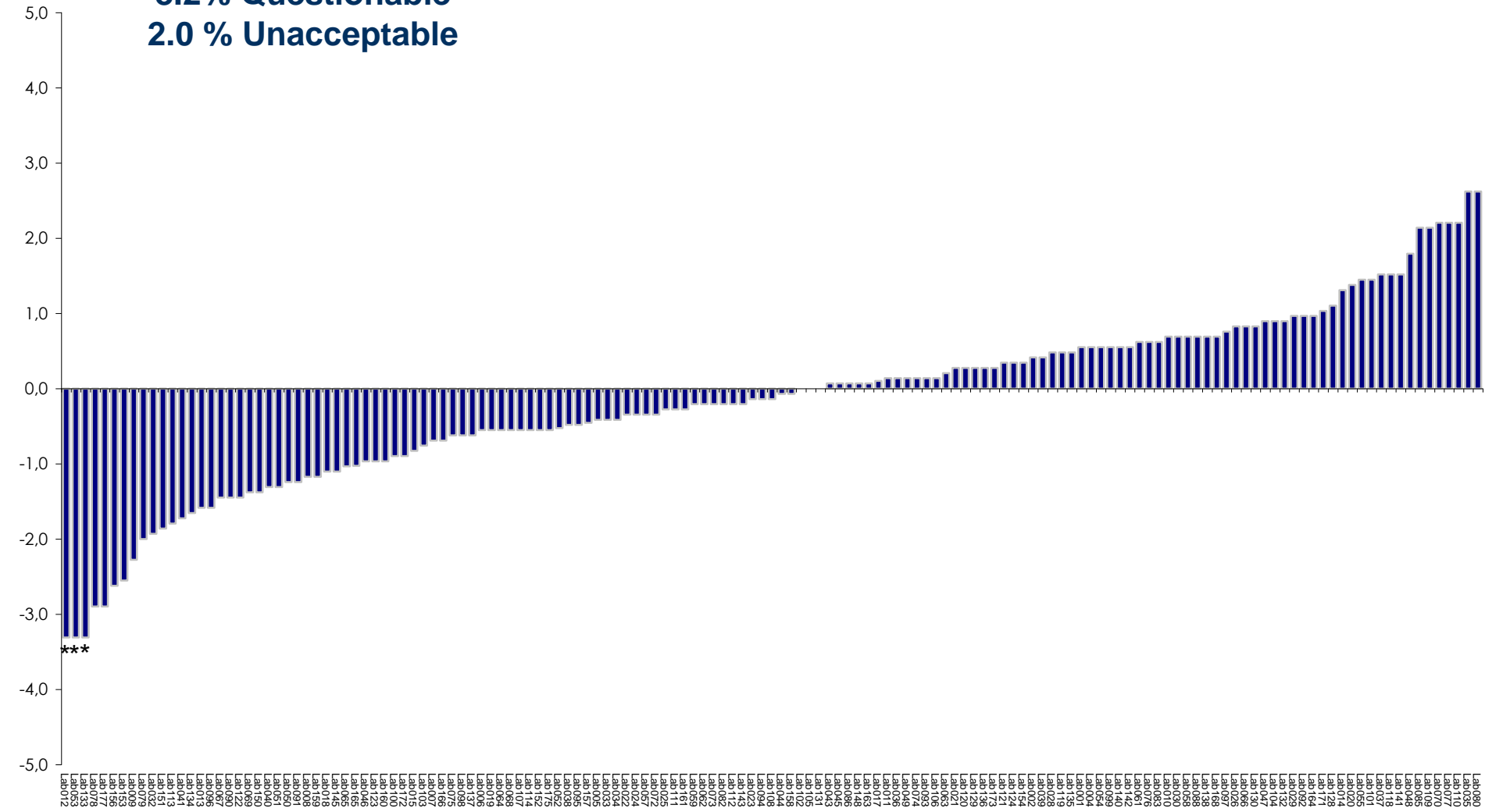


7th May

Prochloraz

89.8 % Acceptable
8.2% Questionable
2.0 % Unacceptable

Median: 0.058 mg/kg



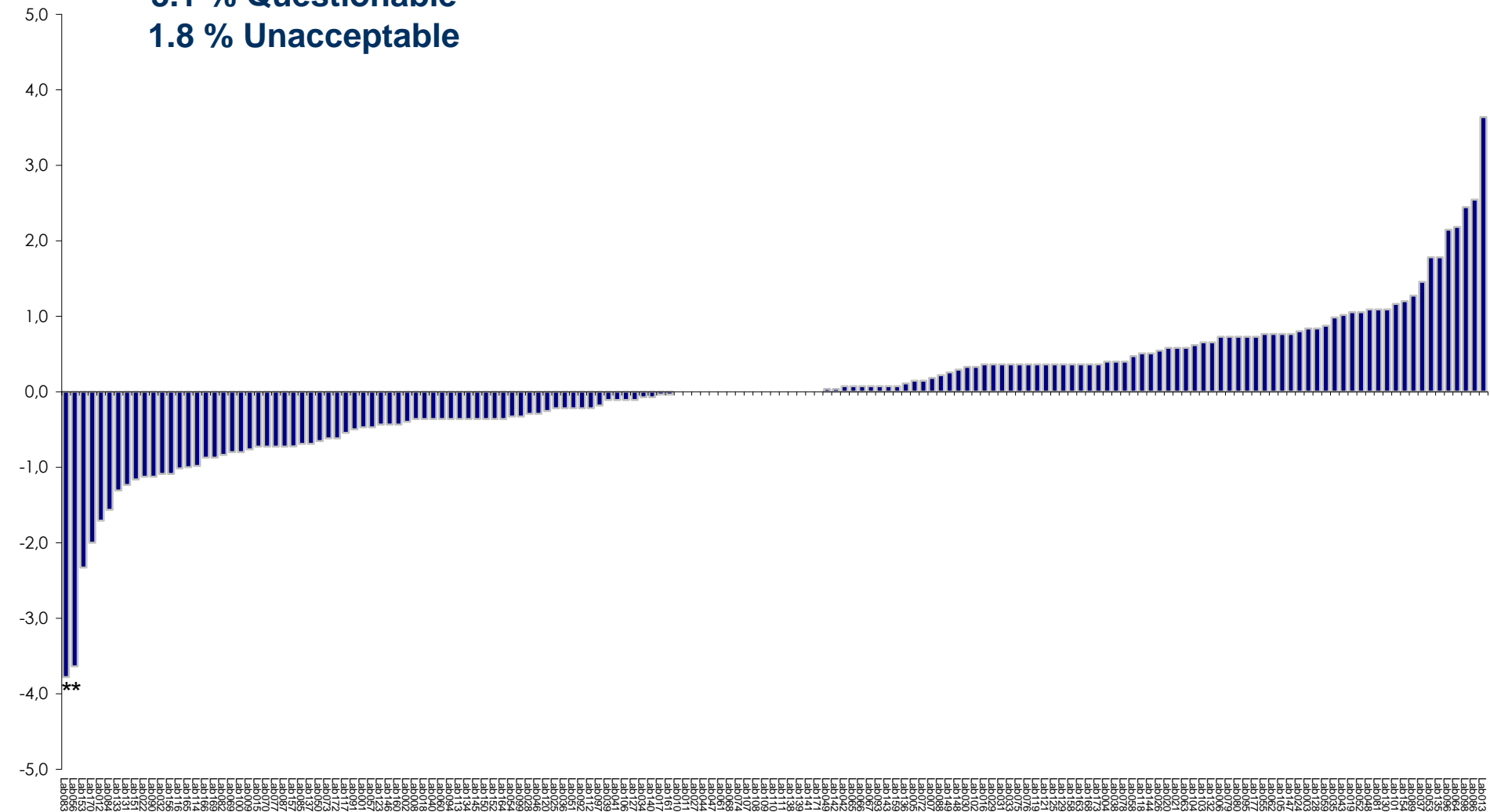
* False Negatives

7th May

Procymidone

Median: 0.110 mg/kg

95.1 % Acceptable
3.1 % Questionable
1.8 % Unacceptable



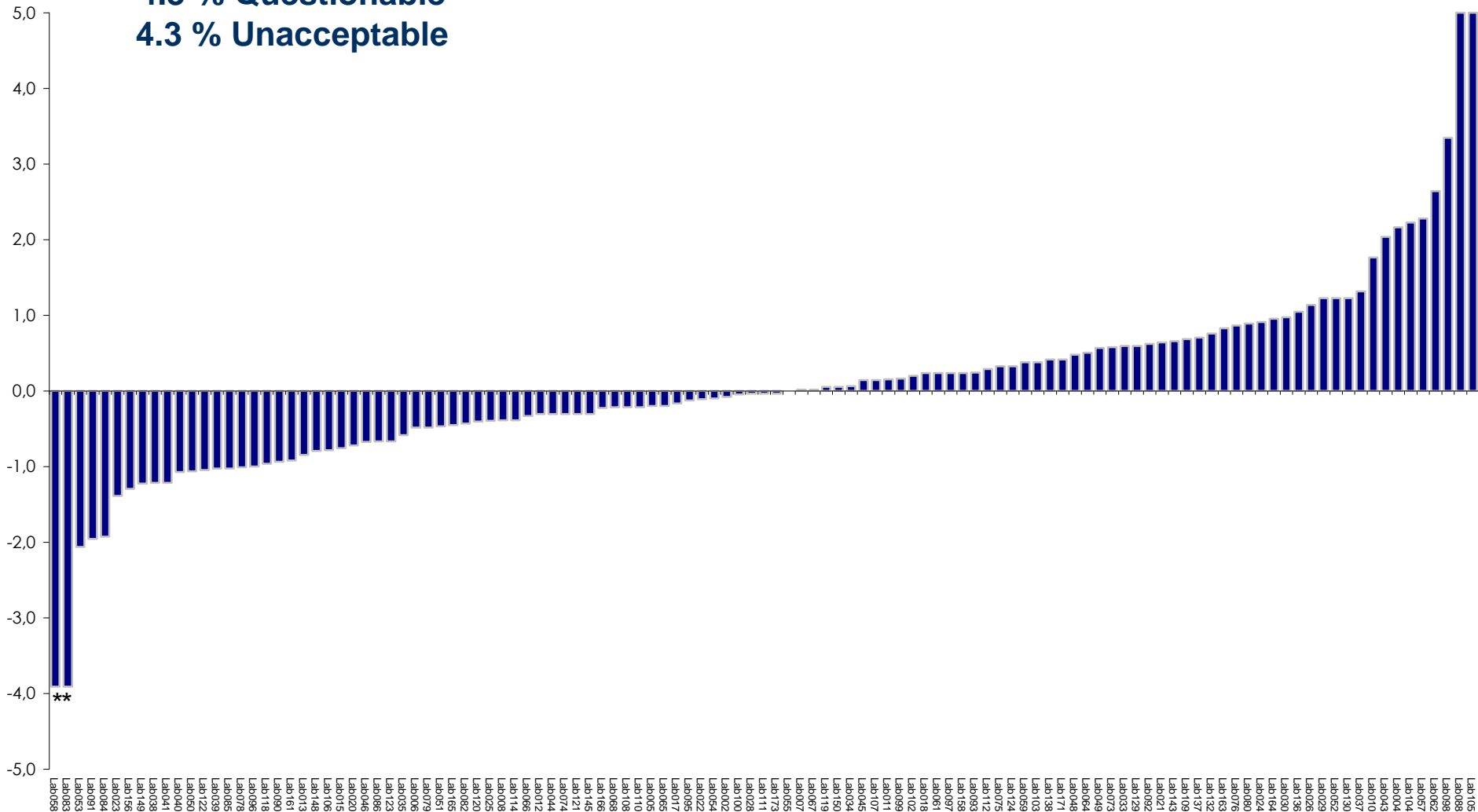
* False Negatives

7th May

Spirodiclofen

Median: 0.444 mg/kg

91.3 % Acceptable
4.3 % Questionable
4.3 % Unacceptable



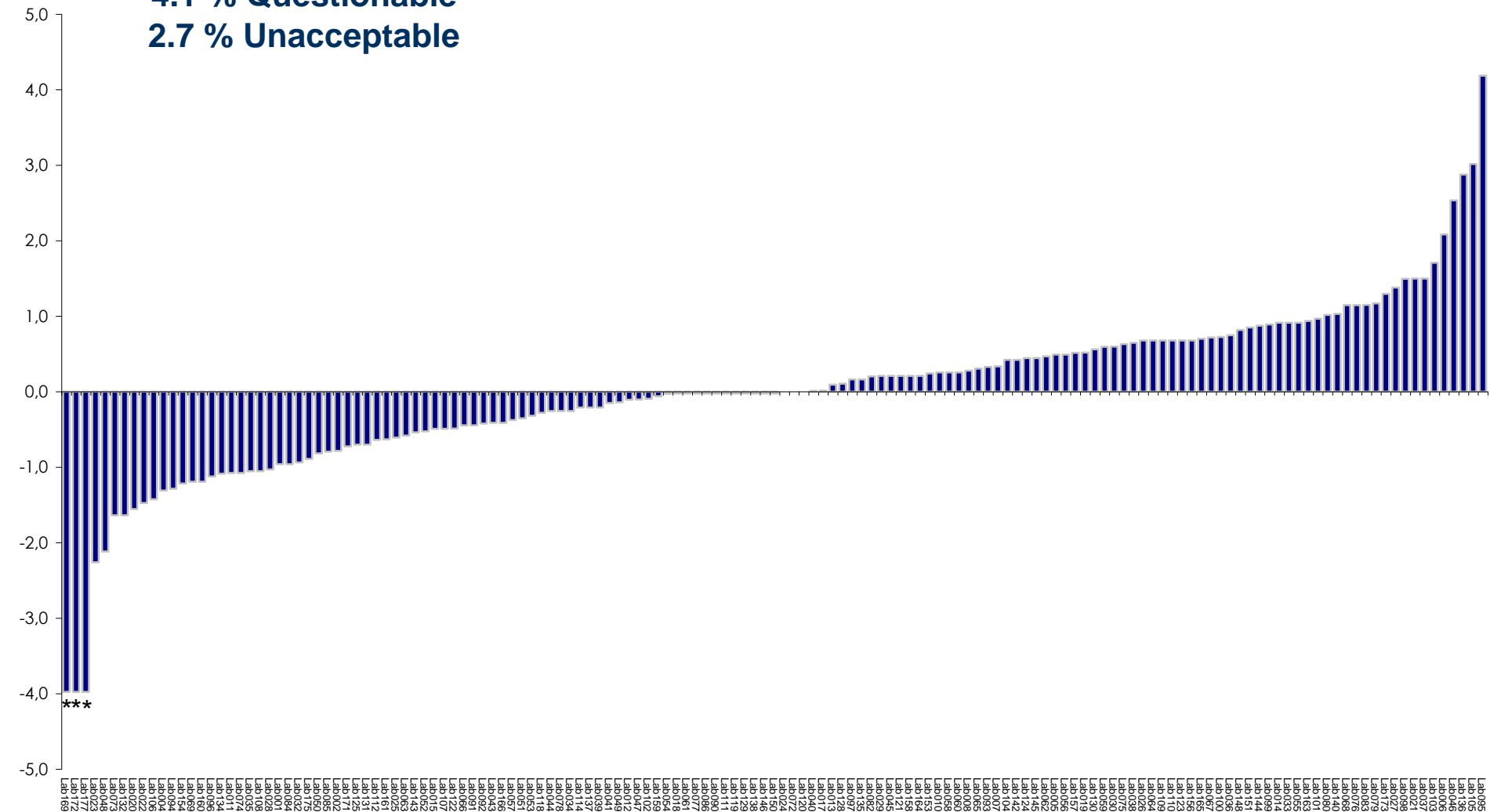
* False Negatives

7th May

Thiabendazole

93.2 % Acceptable
4.1 % Questionable
2.7 % Unacceptable

Median: 1.710 mg/kg



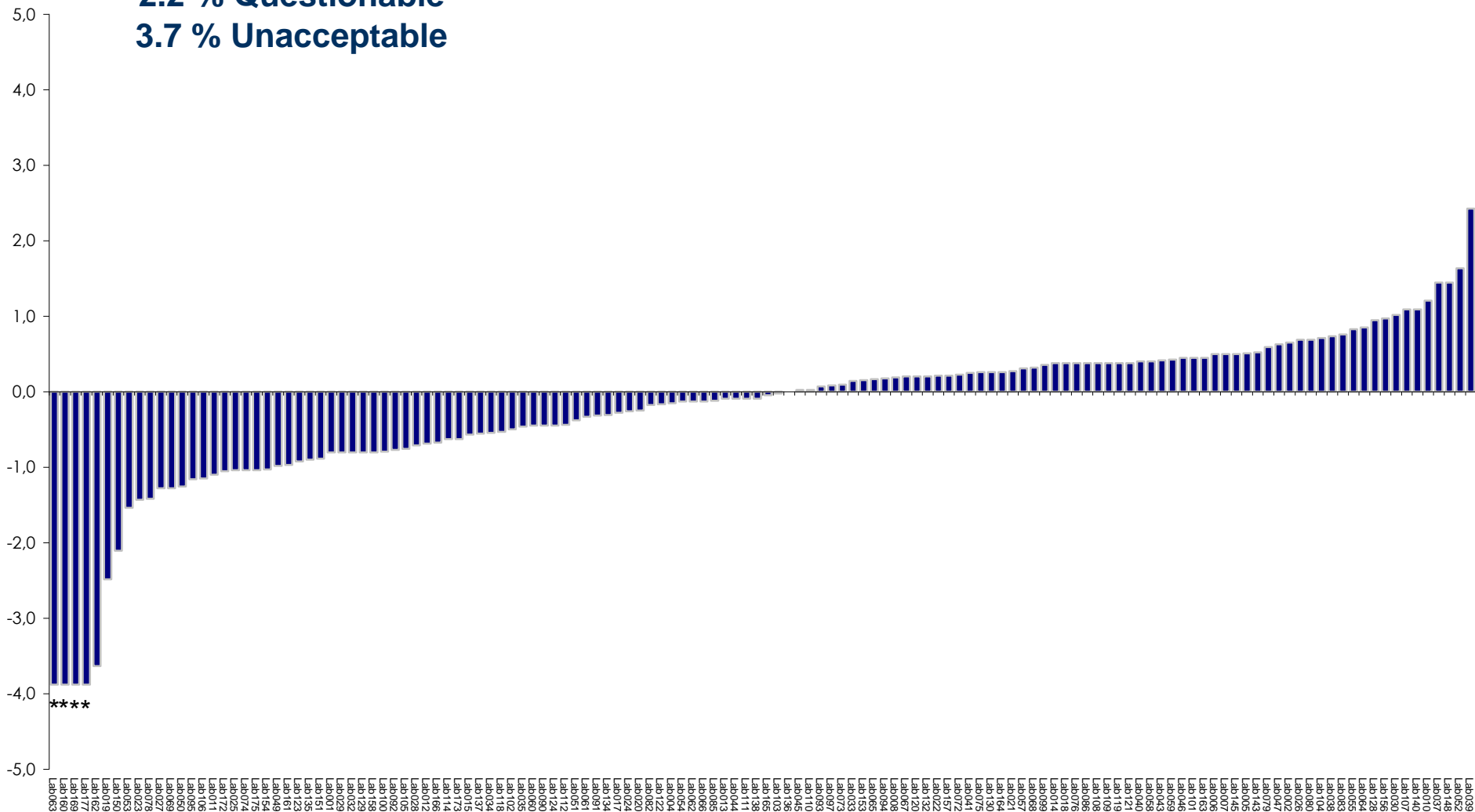
* False Negatives

7th May

Thiacloprid

Median: 0.338 mg/kg

94.0 % Acceptable
2.2 % Questionable
3.7 % Unacceptable



* False Negatives

Combined z-Scores

Average of Squared z-Scores

$$AZ^2 = \frac{\sum_{i=1}^n |z_i| |z_i|}{n}$$

$ AZ^2 \leq 2$	Good
$2 < AZ^2 \leq 3$	Satisfactory
$ AZ^2 > 3$	Unsatisfactory

7th May

AZ² Representation

EU Laboratories

92 % Good

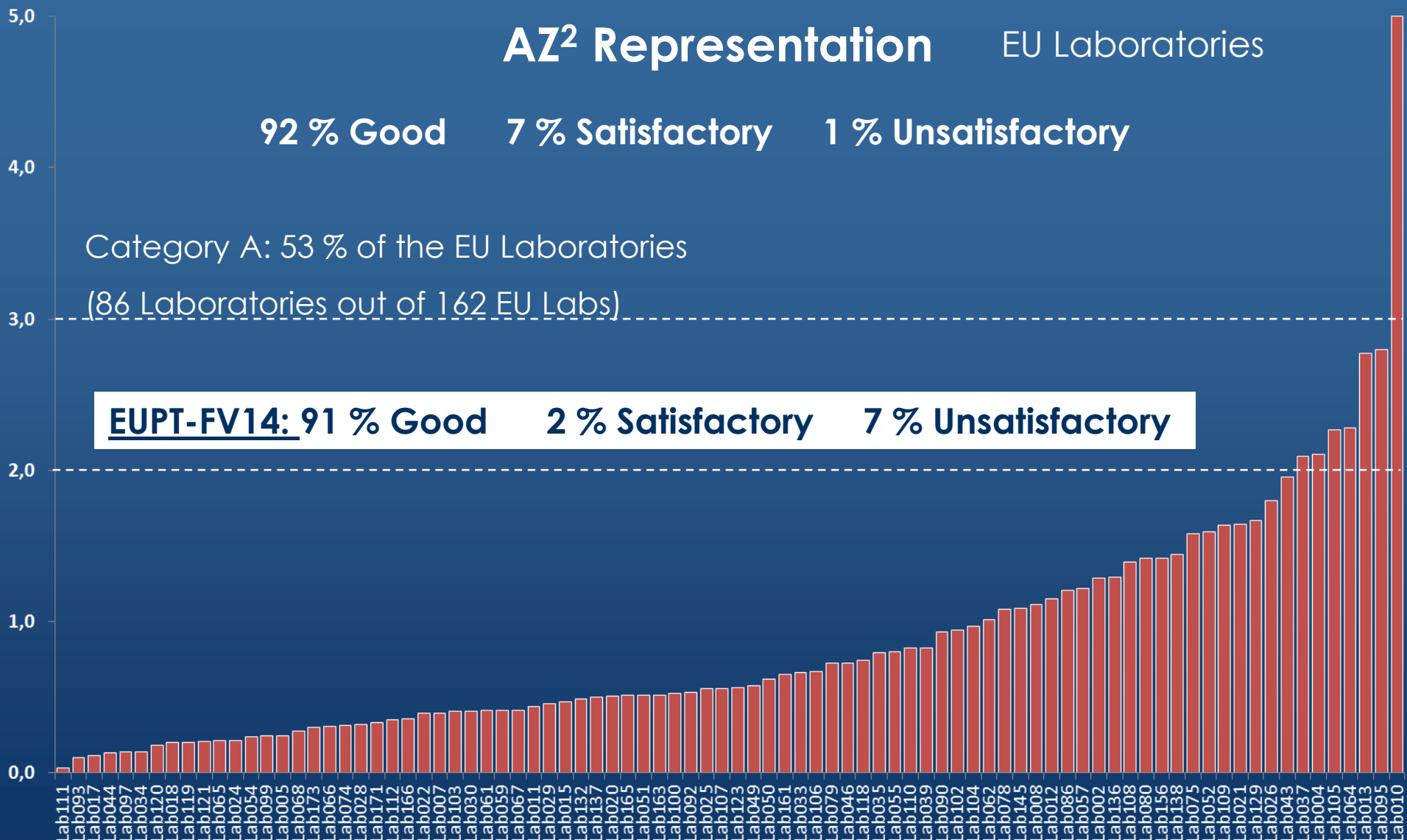
7 % Satisfactory

1 % Unsatisfactory

Category A: 53 % of the EU Laboratories

(86 Laboratories out of 162 EU Labs)

EUPT-FV14: 91 % Good 2 % Satisfactory 7 % Unsatisfactory



False Positives

12 different laboratories reported 13 pesticides as false positives

7th May

False Positives

Laboratory Code	Pesticide	Concentration (mg/kg)	Determination Technique	RL (mg/Kg)	MRRL (mg/Kg)
Lab038	Captan	0.131	GC-MSD (EI)	0.01	0,01
Lab040	Endosulfan sulfate	0.013	GC-MSD (CI-)	0.001	0.01
Lab041	Endosulfan sulfate	0.013	GC-MSD (CI-)	0.001	0.01
Lab056	Fenitrothion	0.031	GC-NPD	0.01	0.01
Lab056	Imazalil	0.028	GC-NPD	0.01	0.01
Lab060	Dimethomorph	0.110	LC-MS/MS (QQQ) (ESI+)	0.01	0.01
Lab073	Endosulfan sulfate	0.023	GC-MS/MS (QQQ) (EI+)	0.01	0.01
Lab077	Carbendazim (sum of benomyl and carbendazim expressed as carbendazim)	0.040	HPLC-FD Confirmation: GC-MS/MS (QQQ) (EI+)	0.01	0.01
Lab081	Omethoate	0.014	GC-MSD (EI)	0.02	0.003
Lab114	Methiocarb sulfone	0.612	LC-MS/MS (QQQ) (ESI+)	0.01	0.01
Lab128	Fludioxonil	0.123	LC-MS/MS (QQQ)	0.01	0.01
Lab160	Tebuconazole	0.011	LC-MS/MS (QQQ) (ESI+)	0.01	0.01
Lab175	Epoxiconazole	0.020	LC-MS/MS (QQQ) (ESI+)	0.01	0.01

False Positives

GC-MS or GC-NPD

Captan

Carbendazim

3 x Endosulfan sulfate

Fenitrothion

Imazalil

Omethoate

LC-MS/MS

Carbendazim

Dimethomorph

Epoxiconazole

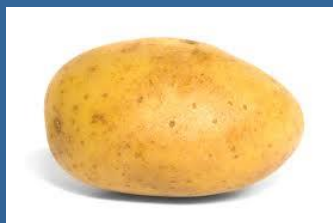
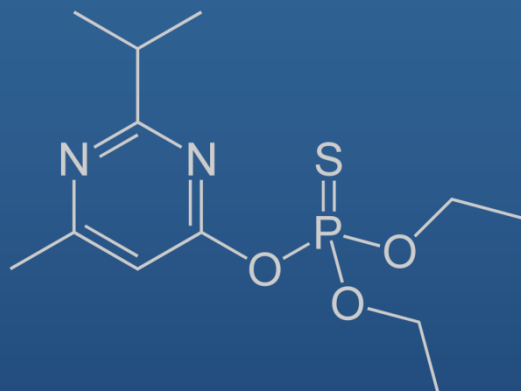
Fludioxonil

Methiocarb sulfone

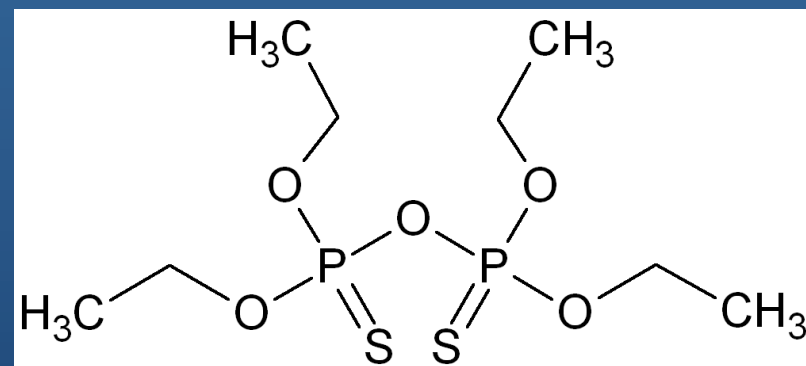
Tebuconazole

Impurities of commercial formulations

7th May

**Spiked with diazinon**

Diazinon

0.195 ppm

Sulfotep

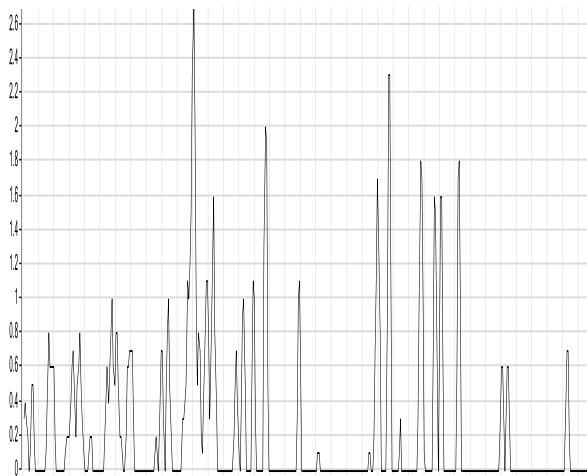
Aprox. 0.040 ppm

(NOT included in the target list)

GC-QQQ-MS/MS

Blank Potato

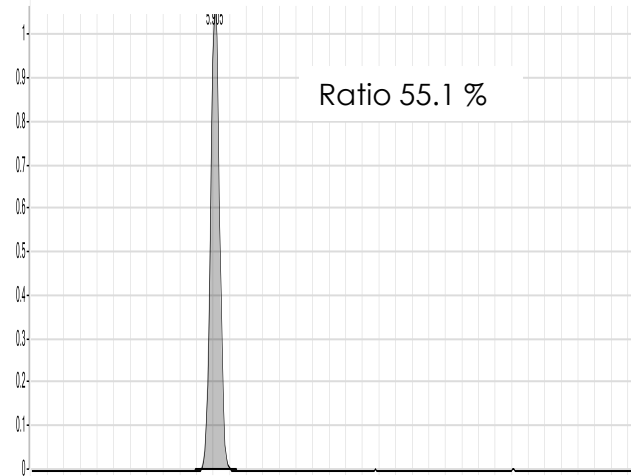
201.8>145.9



50ppb Sulfotep in Potato matrix

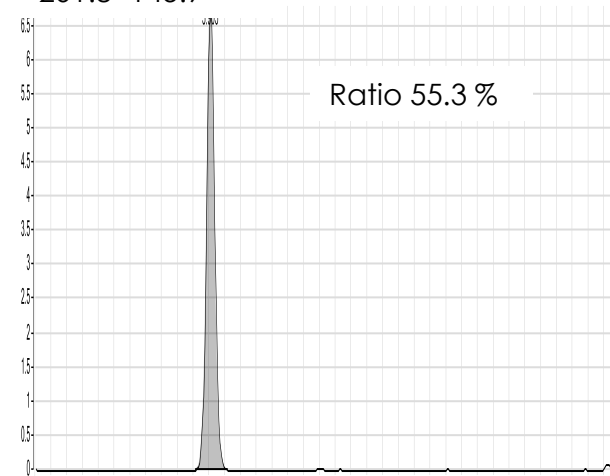
201.8>145.9

ISD

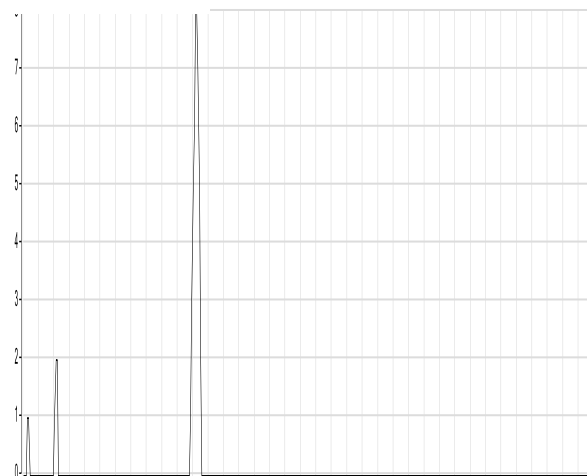


Sample EUPT-FV15_189

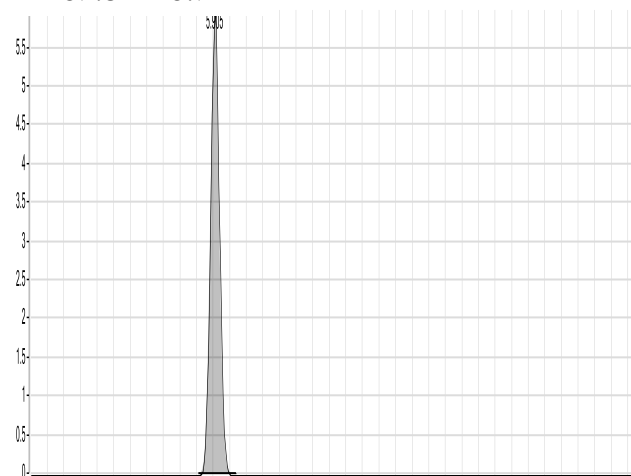
201.8>145.9



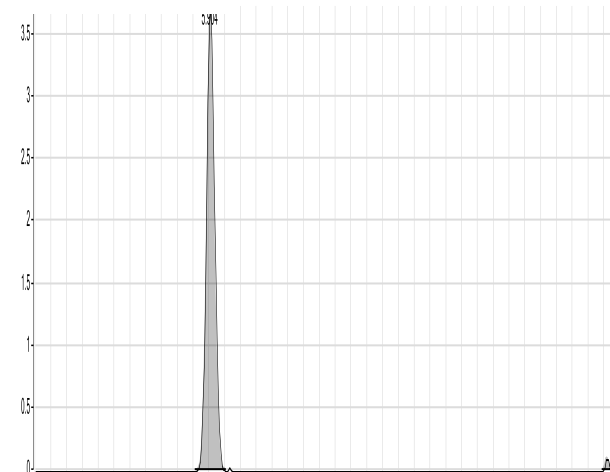
237.8>145.9



237.8>145.9



237.8>145.9

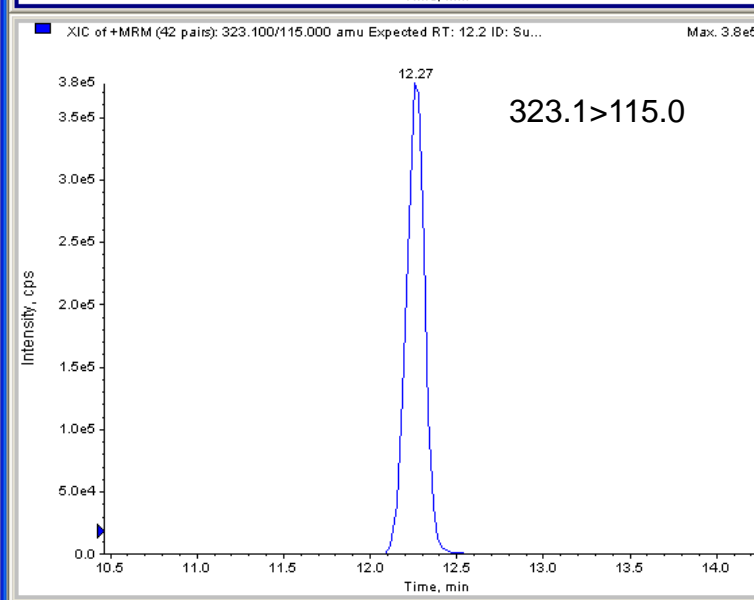
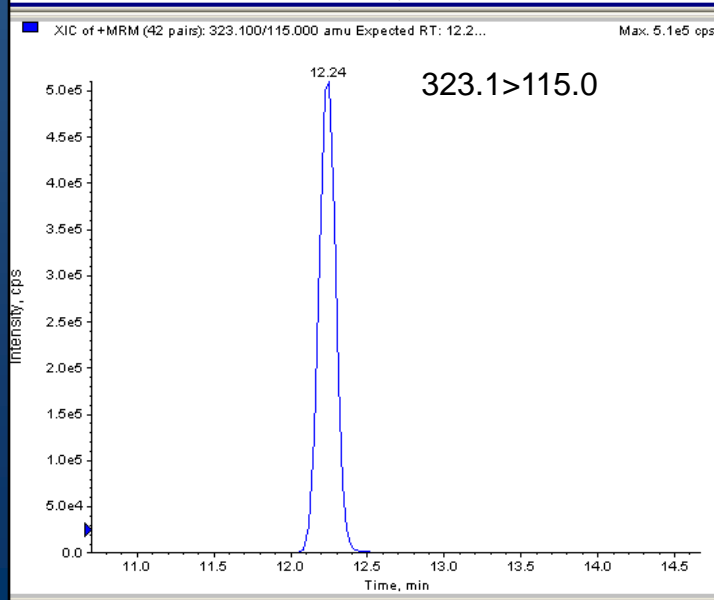
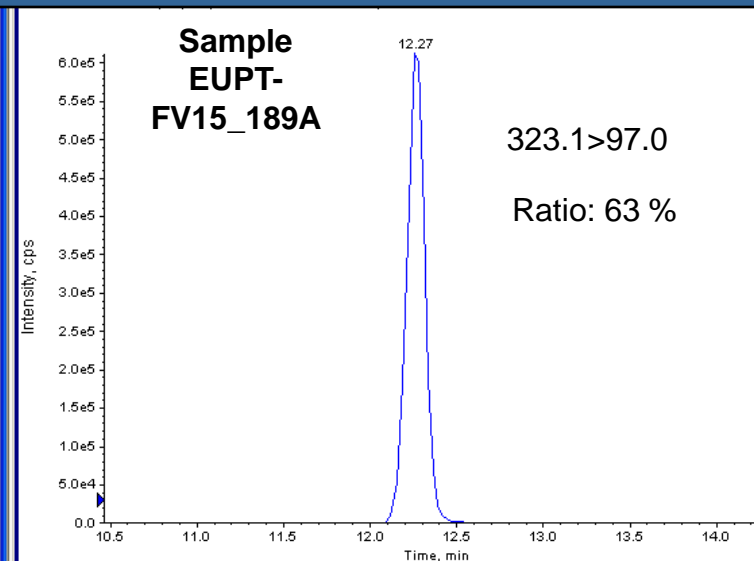
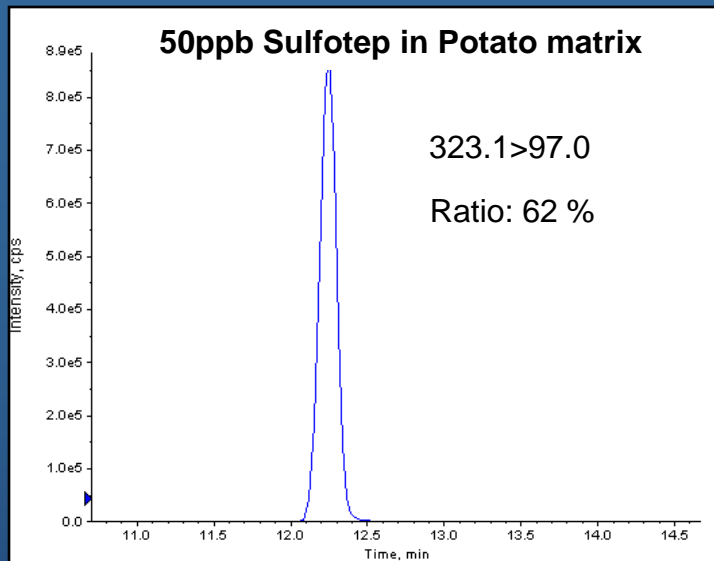


Counts vs. Acquisition Time (min)

Counts vs. Acquisition Time (min)

Counts vs. Acquisition Time (min)

LC-QQQ-MS/MS



GC-QTOF-MS

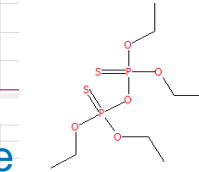
x10⁴ +EI EIC(322.0222) Scan 100ppb_sulfotep_patata.D Smooth (4)

100ppb sulfotep in potato matrix

Rt=14.198min

x10³ +EI EIC(322.0222) Scan FV15_patata_189_B.D Smooth (4)

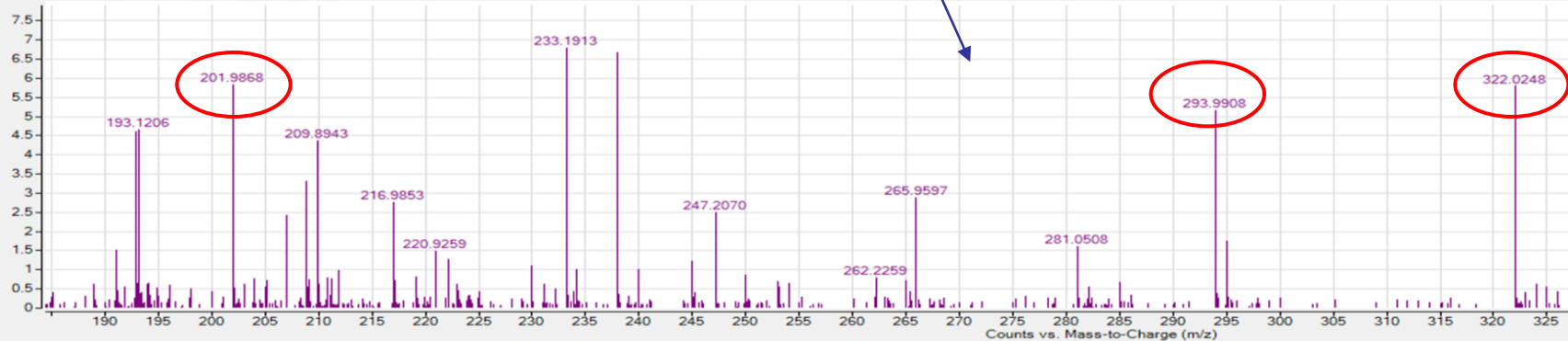
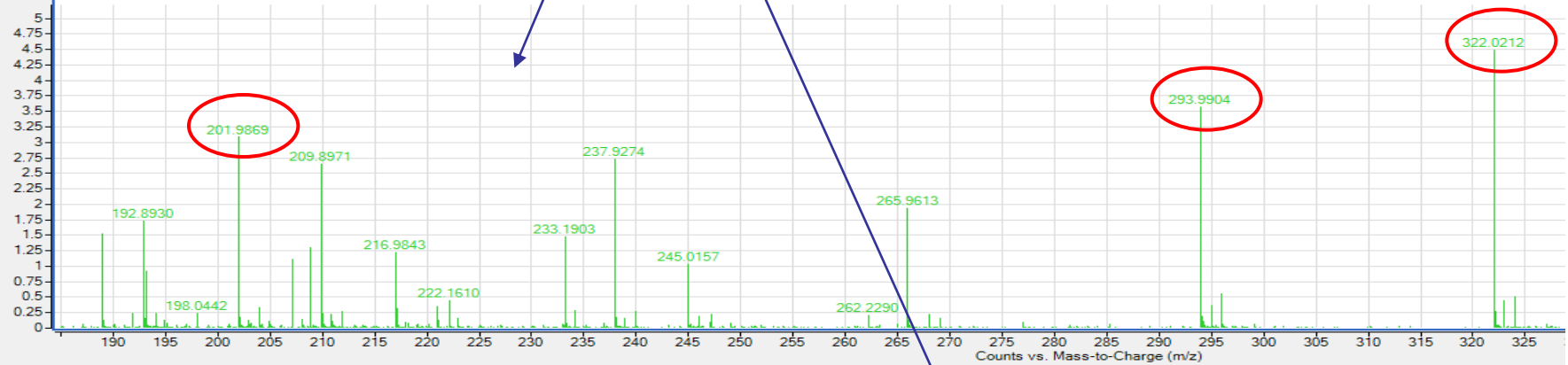
EUPT-FV15 sample



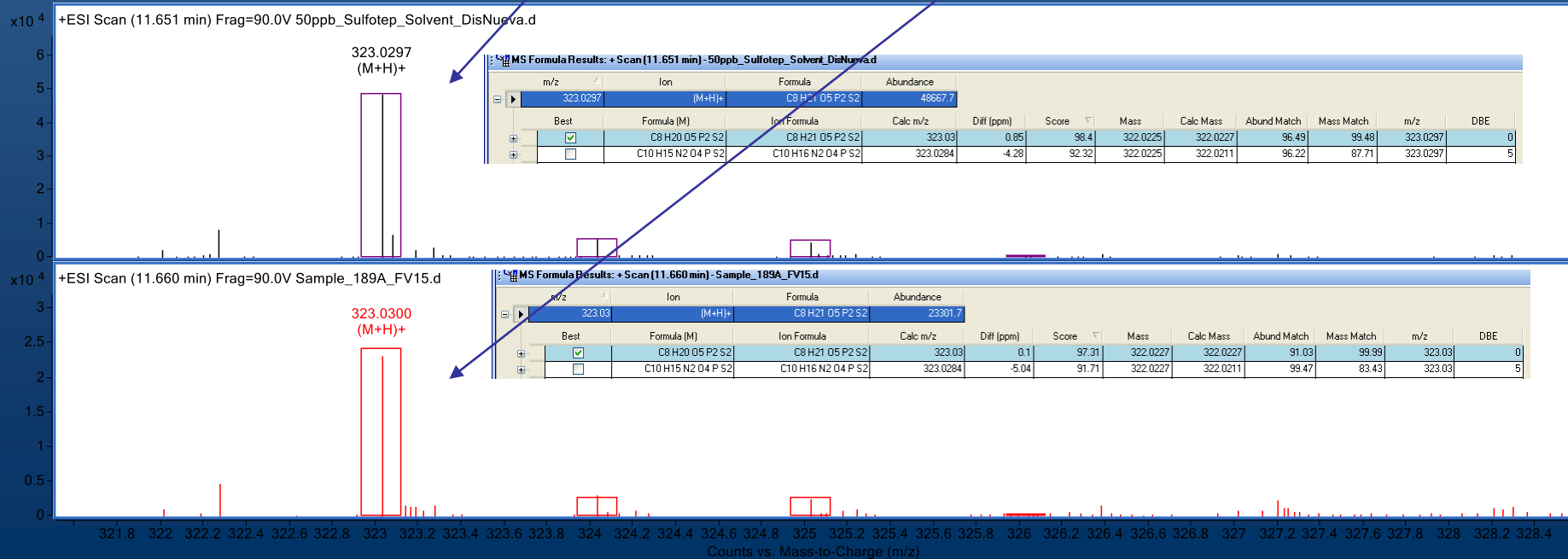
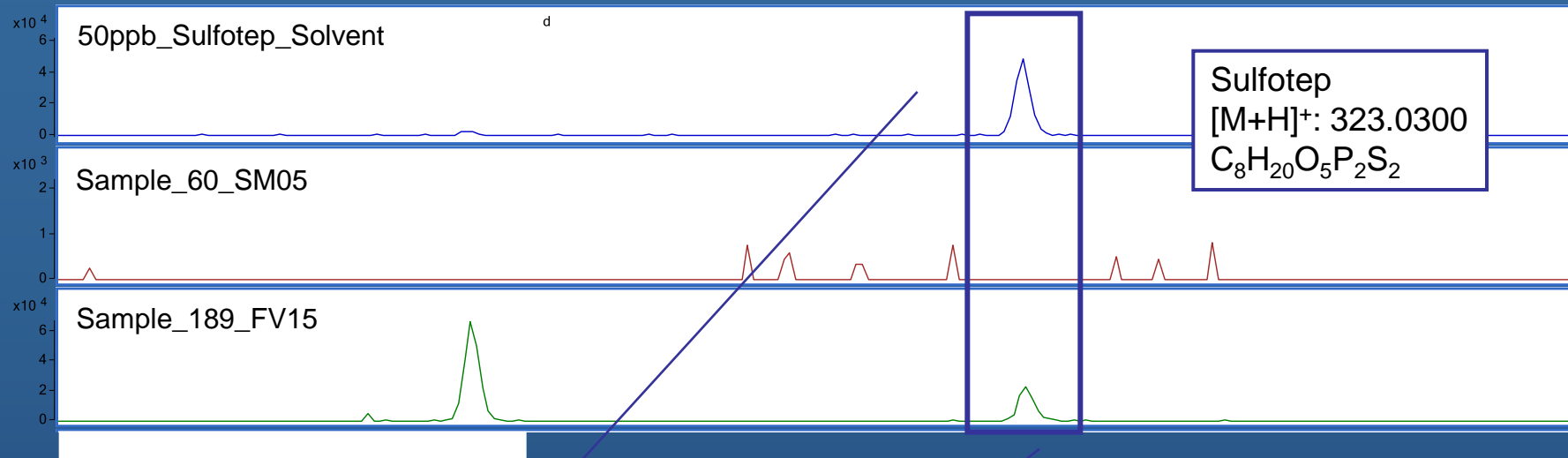
C₈H₂₀O₅P₂S₂

Formula	Exact Mass	Exp.Mass	Error(ppm)
C ₈ H ₂₀ O ₅ P ₂ S ₂	322.0222	322.0248	-8.07
C ₆ H ₁₆ O ₅ P ₂ S ₂	293.9909	293.9908	0.34
C ₄ H ₁₁ O ₃ P ₂ S ₂	201.9882	201.9868	6.93

x10⁴ +EI Scan (14.205 min) 100ppb_sulfotep_patata.D Subtract



LC-QTOF-MS



Contamination of commercial formulations

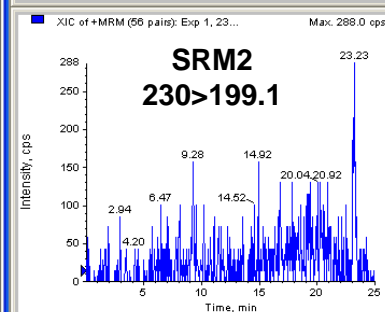
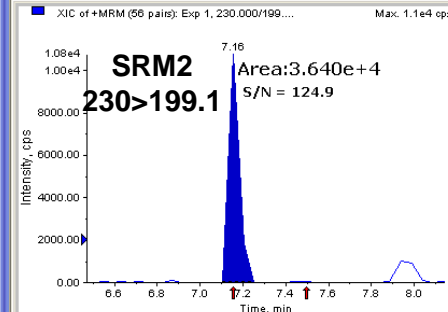
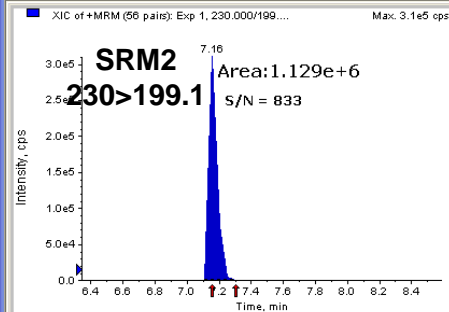
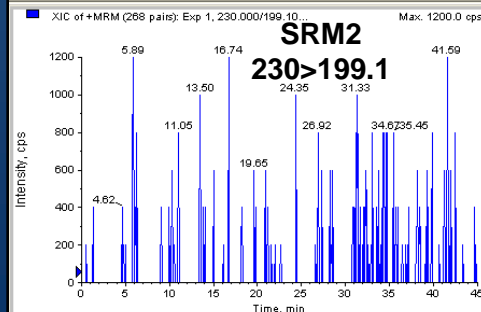
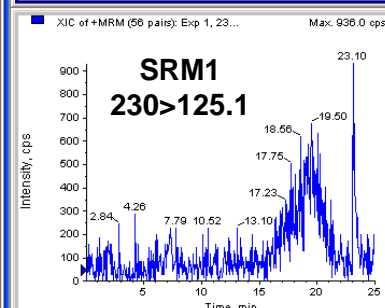
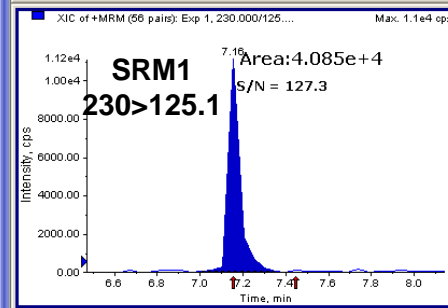
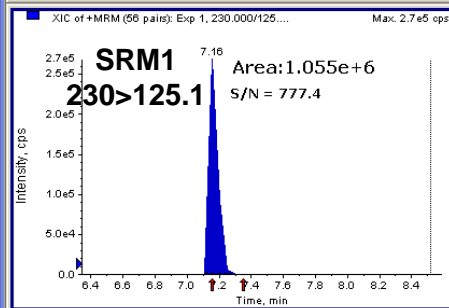
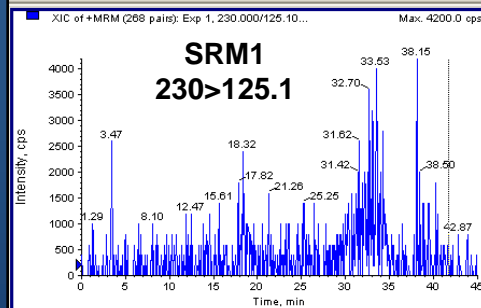
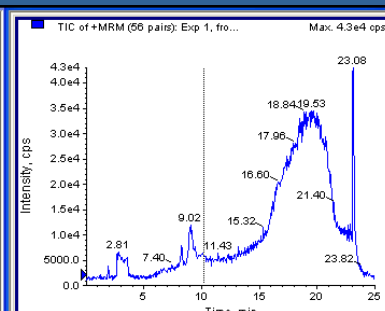
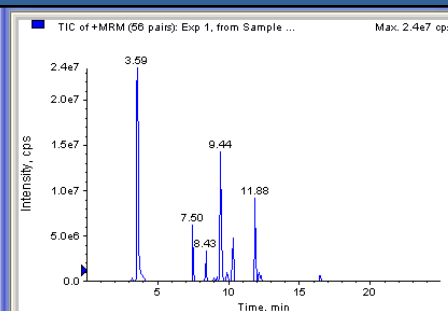
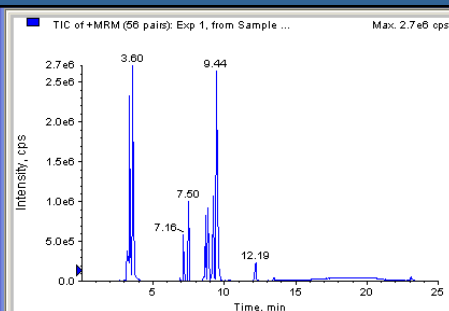
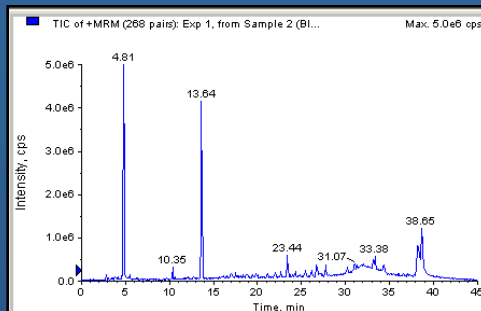
DIMETHOATE (Found in the sample at aprox. 3 ppb)

POTATO BLANK

10 ppb POTATO

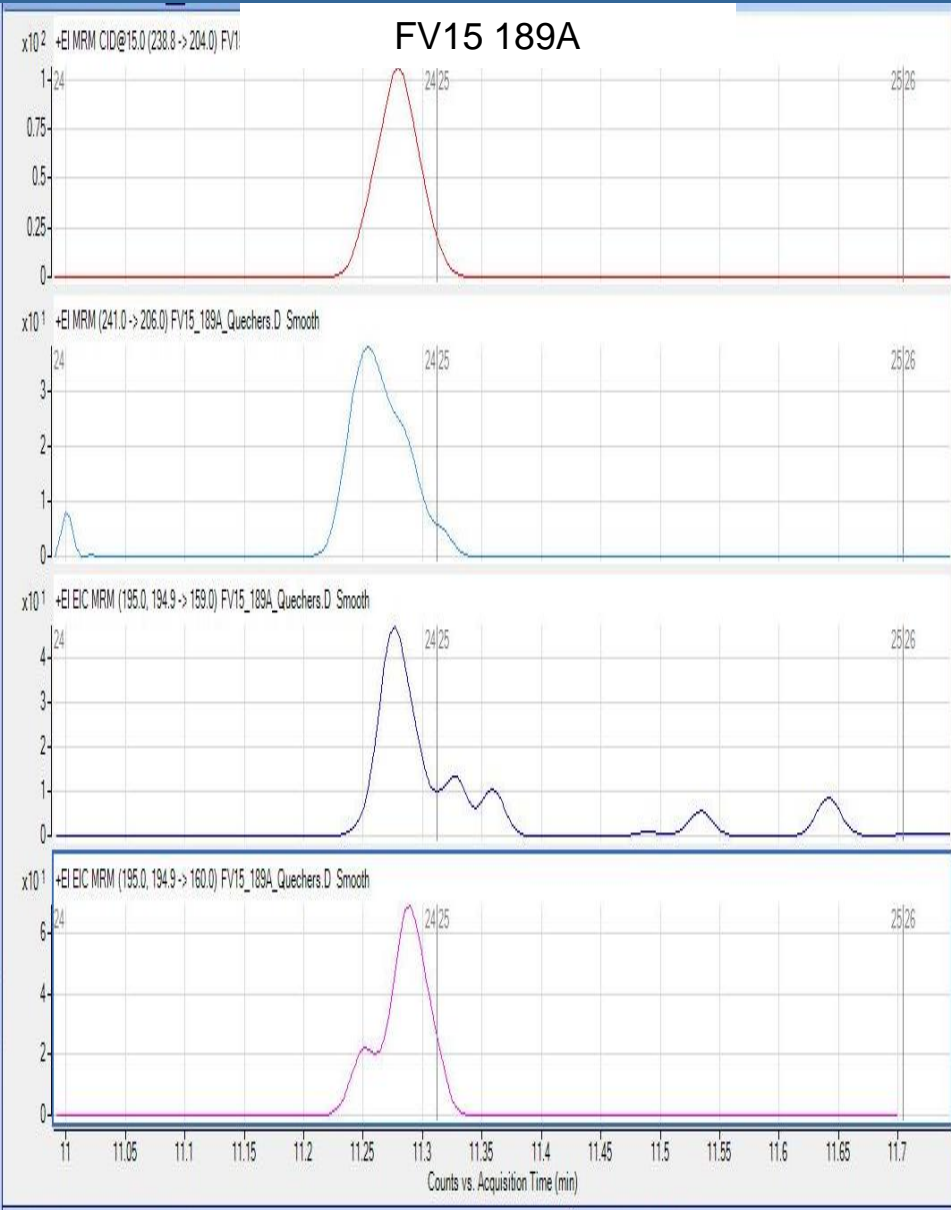
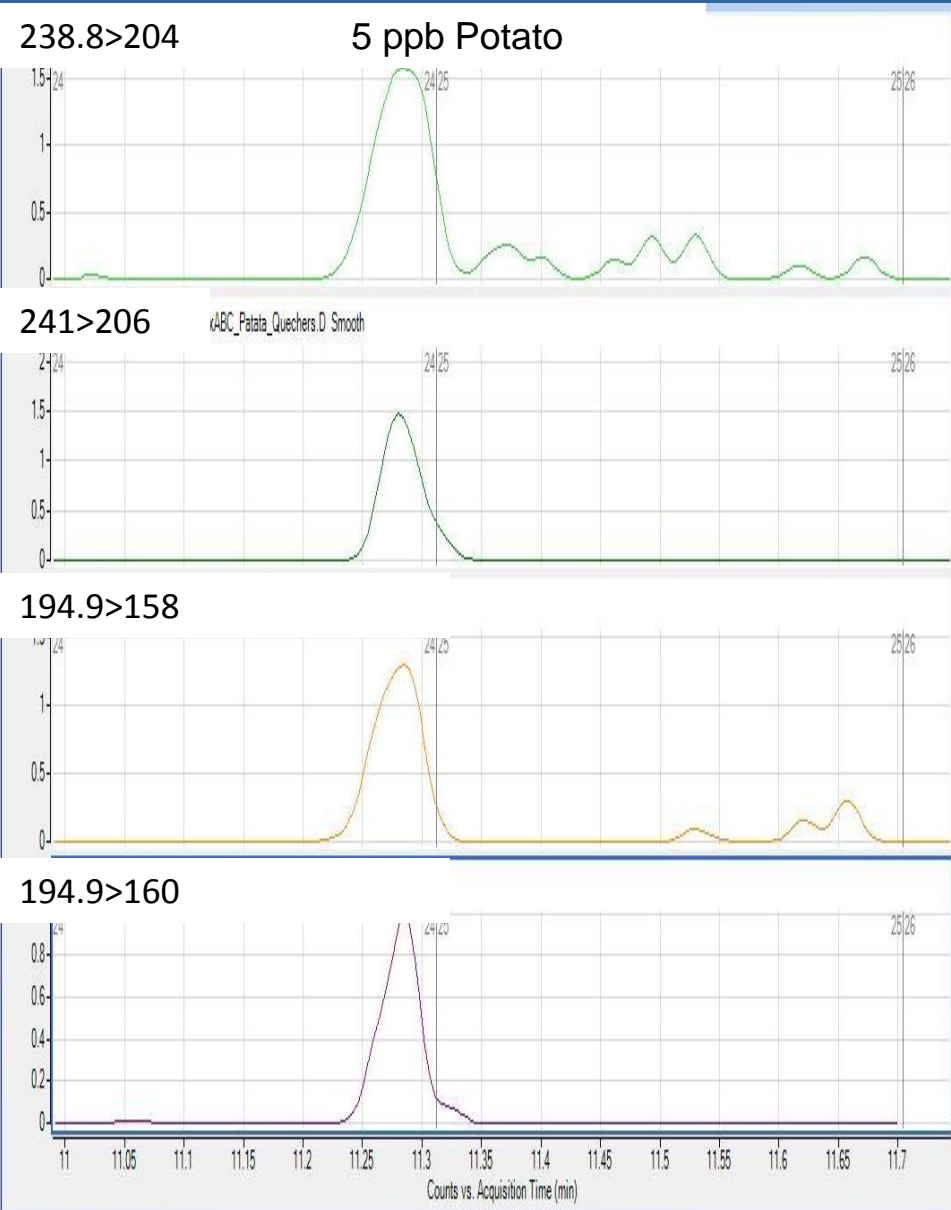
SAMPLE 79A FV15

SOLVENT



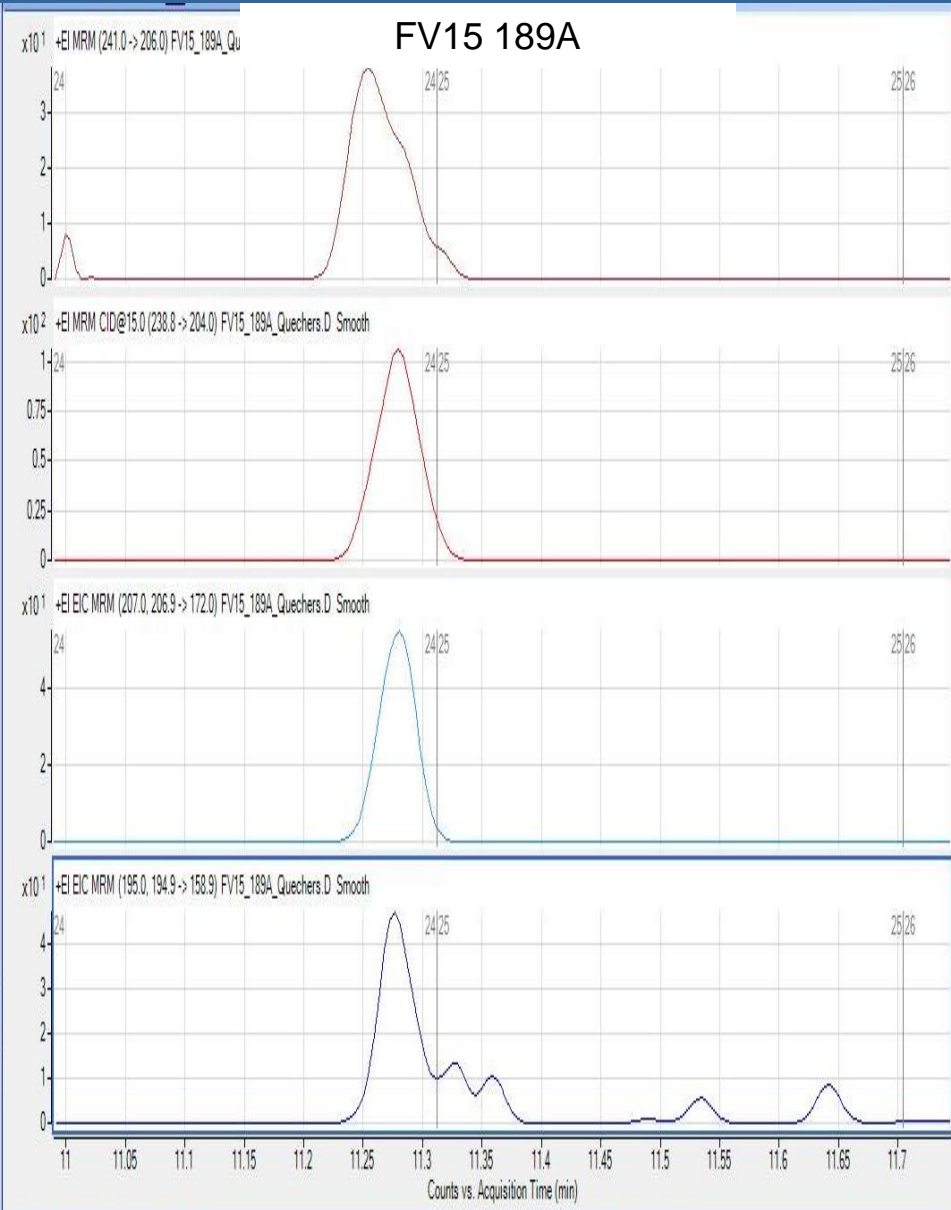
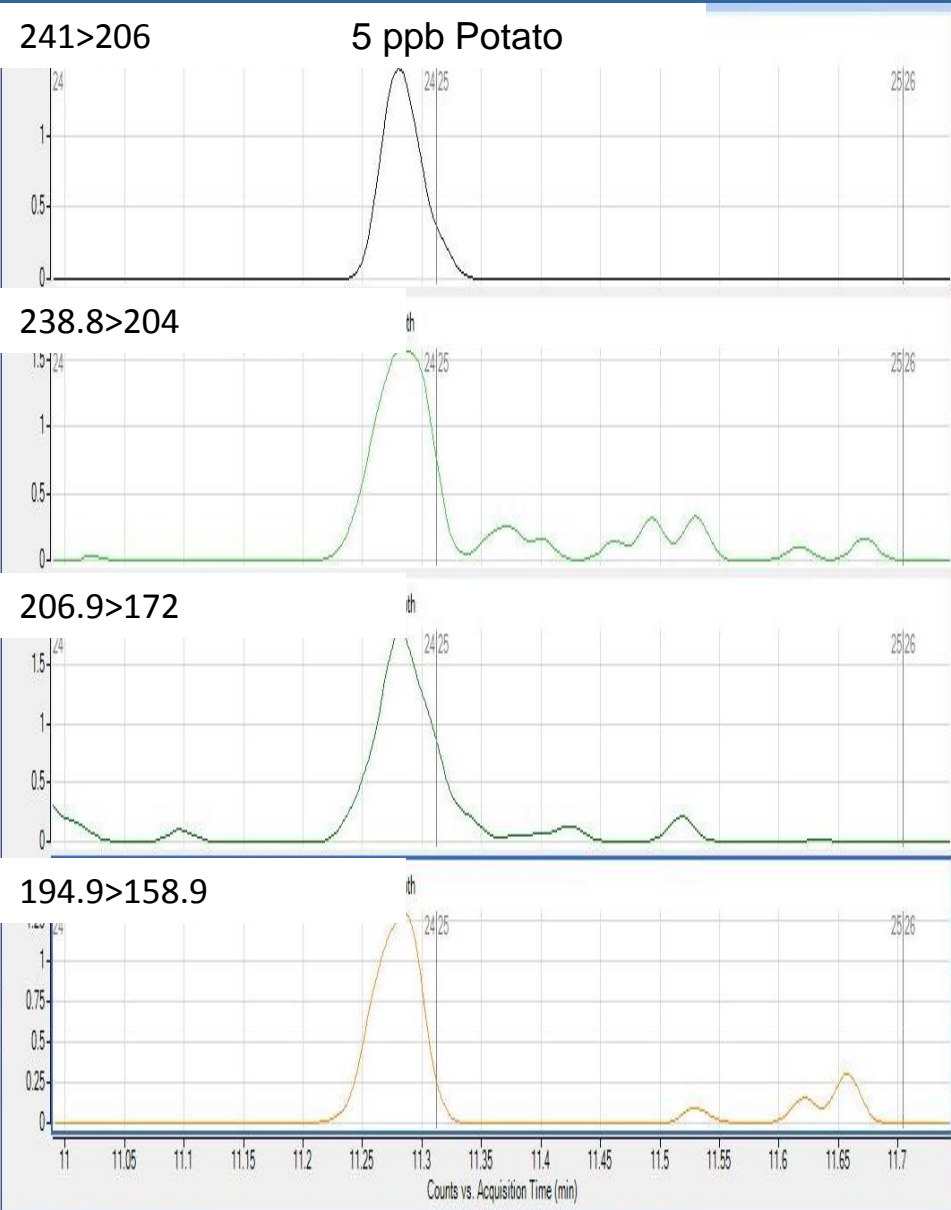
7th May

Endosulfan Alpha (concentration < 10ppb)



7th May

Endosulfan Beta (concentration < 10ppb)



Preliminary Results



European Union Reference Laboratory for Pesticide Residues in Fruits & Vegetables

EUPT-FV-15
European Proficiency Test FV-15

Standard solution exercise

EUPT-FV15 pesticides standard solution in solvent

Expected Delivery of the standard solutions

September 2013



EUPT-T01



Regulation (EU) No 1235/2012



Samples coming from China



Commercial tea with incurred pesticides

Delivery of the test material

10th of June 2013



**Thank You
for Your Attention**



EURL EUROPEAN
UNION
REFERENCE
LABORATORY