



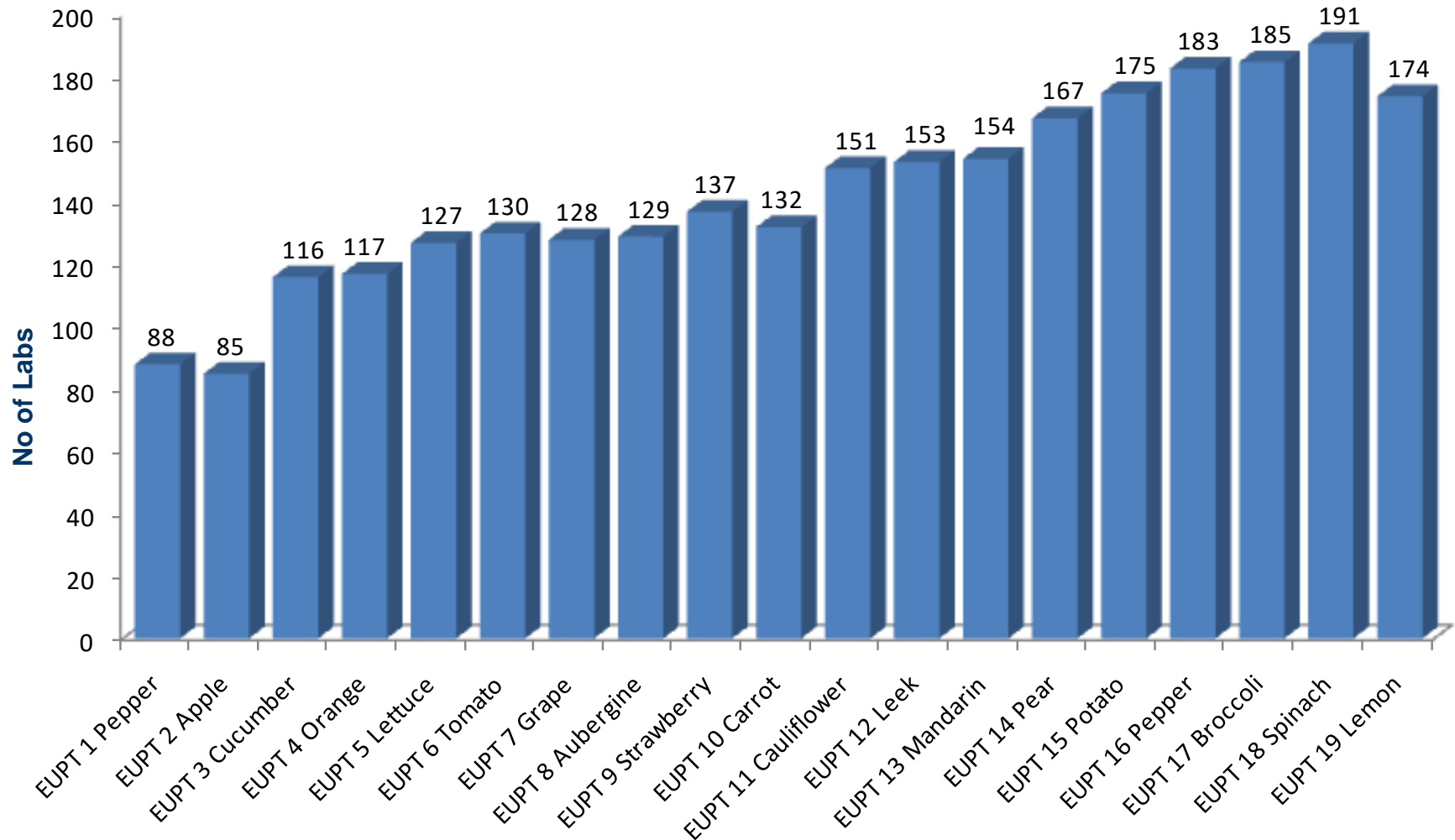
EURL

European Union Reference Laboratory for Pesticide Residues in Fruits & Vegetables

EUPT-FV-19

European Proficiency Test FV-19

Participation



Participation

Total No. of Labs = 174

EU/EFTA Labs = 156

Other countries Labs = 18

Total No. of Countries = 43

EU/EFTA countries = 30

Other countries = 13

3 participants did not submit results



153 EU/EFTA Labs

Participation

Member State	No. Labs
Austria	2
Belgium	6
Bulgaria	3
Croatia	5
Cyprus	1
Czech Republic	2
Denmark	2
Estonia	2
Finland	2
France	8
Germany	27
Greece	3
Hungary	4
Iceland	1
Ireland	1

Member State	No. Labs
Italy	21
Latvia	1
Lithuania	1
Luxembourg	1
Netherlands	1
Norway	1
Poland	11
Portugal	3
Romania	3
Slovakia	1
Slovenia	2
Spain	32
Sweden	2
Switzerland	3
United Kingdom	4

Non-EU/EFTA	No. Labs
China	4
Costa Rica	1
Indonesia	1
Kenya	2
Panama	1
Peru	1
Saudi Arabia	1
Serbia	2
Singapore	1
Thailand	1
Turkey	1
Uruguay	1
Zambia	1

192 pesticides

Acephate	Chlorfenapyr	Dimethoate	Fenpropathrin
Acetamiprid	Chlorfenvinphos	Dimethomorph	Fenpropidin
Acrinathrin	Chlorobenzilate	Dimethylaminosulfotoluidide (D	Fenpropimorph
Aldicarb	Chlorothalonil	Diniconazole	Fenpyroximate
Aldicarb Sulfone	Chlorpropham	Diphenylamine	Fenthion
Aldicarb Sulfoxide	Chlorpyrifos	Endosulfan alpha	Fenthion oxon
Aldrin	Chlorpyrifos-methyl	Endosulfan beta	Fenthion oxon sulfone
Azinphos-methyl	Clofentezine	Endosulfan sulfate	Fenthion oxon sulfoxide
Azoxystrobin	Clothianidin	EPN	Fenthion sulfone
Benfuracarb	Cyfluthrin (cyfluthrin incl. other	Epoxiconazole	Fenthion sulfoxide
Bifenthrin	(sum of isomers))	Ethion	Fenvalerate
Biphenyl	Cymoxanil	Ethirimol	Fipronil (only parent compou
Bitertanol	Cypermethrin (cypermethrin in	Ethoprophos	Flubendiamide
Boscalid	isomers (sum of isomers))	Etofenprox	Fludioxonil
Bromopropylate	Cyproconazole	Famoxadone	Flufenoxuron
Bromuconazole	Cyprodinil	Fenamidone	Fluopicolide
Bupirimate	Deltamethrin (cis-deltamethrin)	Fenamiphos	Fluopyram
Buprofezin	Demeton-S-methylsulfone	Fenamiphos sulfone	Fluquinconazole
Cadusafos	Diazinon	Fenamiphos sulfoxide	Flusilazole
Carbaryl	Dichlofluanid	Fenarimol	Flutolanil
Carbendazim and benomyl (su	Dichlorvos	Fenazaquin	Flutriafol
expressed as carbendazim)	Dicloran	Fenbuconazole	Fosthiazate
Carbofuran	Dicofol (sum of p, p' and o,p' i	Fenhexamid	Hexaconazole
Carbofuran-3-hydroxy	Dieldrin	Fenitrothion	Hexythiazox
Carbosulfan	Diethofencarb	Fenoxycarb	Imazalil
Chlorantraniliprole	Difenoconazole		
	Diflubenzuron		

2 New compounds



Imidacloprid	Monocrotophos	Profenofos	Thiabendazole
Indoxacarb (sum of indoxacarb and Myclobutanil)	Myclobutanil	Propamocarb	Thiacloprid
Iprodione	Omethoate	Propargite	Thiamethoxam
Iprovalicarb	Orthophenylphenol	Propiconazole	Thiodicarb
Isocarbophos	Oxadixyl	Propyzamide	Thiophanate-methyl
Isofenphos-methyl	Oxamyl	Prothioconazole	Tolclofos-methyl
Isoprothiolane	Oxydemeton-methyl	Prothiofos	Tolyfluanid
Kresoxim-methyl	Paclobutrazole	Pyraclostrobin	Triadimefon
Lambda-Cyhalothrin	Paraoxon-methyl	Pyridaben	Triadimenol
Linuron	Parathion-ethyl	Pyrimethanil	Triazophos
Lufenuron	Parathion-methyl	Pyriproxyfen	Trichlorfon
Malaoxon	Penconazole	Quinoxifen	Trifloxystrobin
Malathion	Pencycuron	Spinosad	Triflumuron
Mandipropamid	Pendimethalin	Spirodiclofen	Trifluralin
Mepanipyrim	Permethrin (sum of isomers)	Spiromesifen	Triticonazole
Metaflumizone	Phenthoate	Spiroxamine	Vinclozolin
Metalaxyl and metalaxyl-M	Phosalone	Tau-Fluvalinate	Zoxamide
Metconazole	Phosmet	Tebuconazole	
Methamidophos	Phosmet oxon	Tebufenozide	
Methidathion	Phoxim	Tebufenpyrad	
Methiocarb	Pirimicarb	Teflubenzuron	
Methiocarb sulfone	Pirimicarb-desmethyl	Tefluthrin	
Methiocarb sulfoxide	Pirimiphos-methyl	Terbutylazine	
Methomyl	Prochloraz	Tetraconazole	
Methoxyfenozide	Procymidone	Tetradifon	

2 New compounds

35 pesticides

Working Document SANCO/12745/2013

(Working document on pesticides to be considered for inclusion in the national control programmes to ensure compliance with maximum residue levels of pesticides residues in and on food of plant and animal origin)

Ametoctradin

Benalaxyl including other mixtures of constituent isomers including benalaxyl-M (sum of isomers)

Benzovindiflupyr

Chlorfluazurone

Clomazone

Cyazofamid

Cyflufenamid

Emamectin benzoate B1a, expressed as emamectin

Etoxazole

Fenpyrazamine

Fluxapyroxad

Heptachlor

Heptachlor epoxide

Isopyrazam

Metrafenone

Novaluron

Penflufen

Penthiopyrad

Prosulfocarb

10 New compounds

Pyrethrins

Quintozene

Pentachloro-aniline

Proquinazid

Pyridalil

Pyriofenone

Rotenone

Spinetoram

Spirotetramat

Spirotetramat metabolite BYI08330-enol

Spirotetramat metabolite BYI08330-ketohydroxy

Spirotetramat metabolite BYI08330-monohydroxy

Spirotetramat metabolite BYI08330 enol-glucoside

Sulfoxaflor

Tetramethrin

Tricyclazole

Pesticides used for the treatment

Boscalid	Fluopyram
Carbendazim	Imidacloprid
Chlorantraniliprole	Iprodione
Chlorfenapyr	Lufenuron
Chlorpyrifos	Omethoate
Diazinon	Penflufen
Ethoprophos	Propamocarb
Famoxadone	Pyraclostrobin
Fipronil	Sulfoxaflor
Flubendiamide	

Total: 19

* **New in the target list** ** **Voluntary pesticides**

Calendar

EUPT-FV19 CALENDAR

Activity	Date
Publishing the Calendar and Matrix on the Web page.	13 th November 2016
Receiving Application Form from invited laboratories.	9 th January -27 th January 2017
Specific Protocol published on the Web site.	27 th January 2017 at the latest
Sample distribution.	13 th February 2017
Deadline for receiving sample acceptance	17 th February 2017
Deadline for receiving results	6 th March 2017
Filling in additional information, if necessary.	7 th -13 th March 2017
Preliminary Report: only results, no statistical treatment.	March 2017
Final Report distributed to the Laboratories.	December 2017

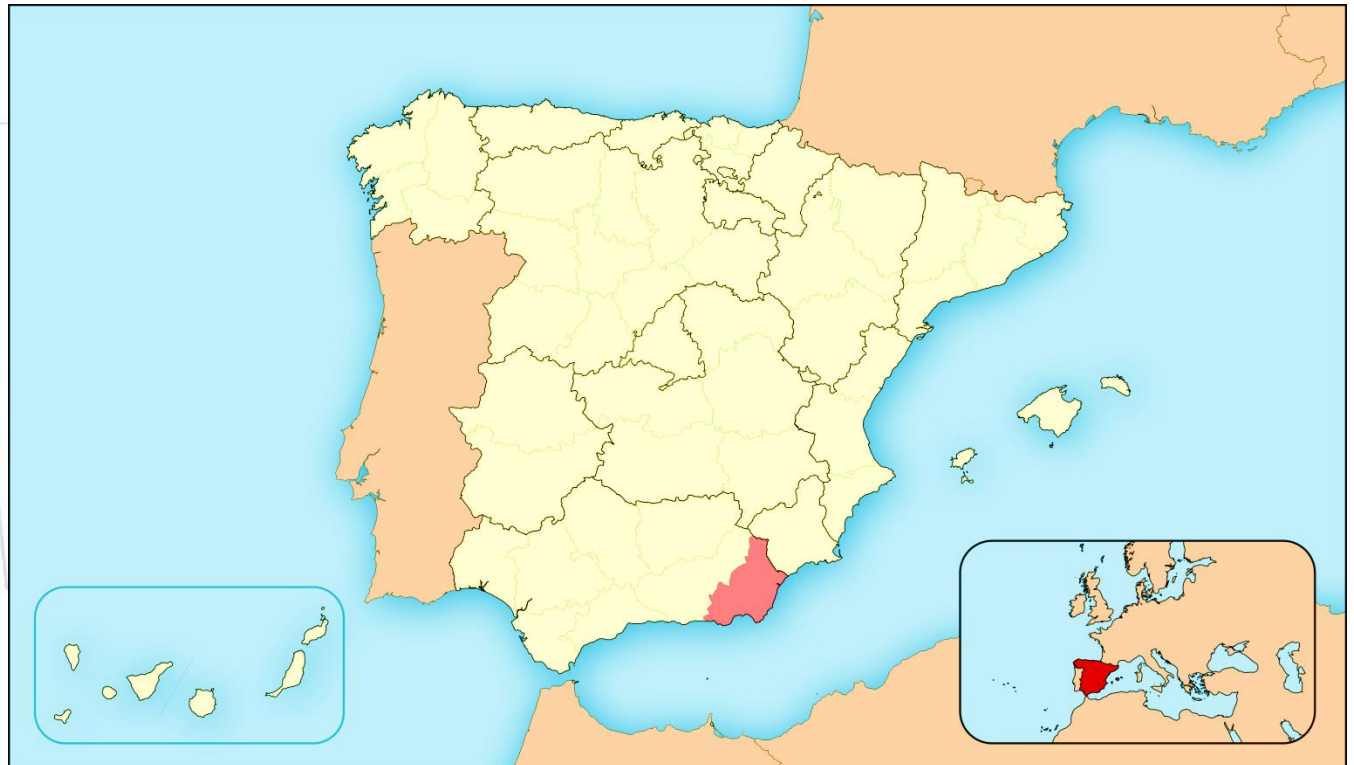
EUPT-FV-19

European Proficiency Test FV-19

Lemon



Organic lemons were grown in the field in Almería, Spain.



Preparation of the test item

Before harvest, the lemon trees were treated with the pesticides available as commercial formulations

After harvesting, the lemons were sprayed with analytical standards





Pesticides applied as analytical standards

Boscalid
Chlorfenapyr
Diazinon
Ethoprophos
Famoxadone
Fipronil
Flubendiamide
Fluopyram
Lufenuron
Omethoate
Propamocarb
Pyraclostrobin
Penflufen
Sulfoxaflor

Pesticides applied as commercial formulations

Carbendazim
Chlorantraniliprole
Chlorpyrifos
Imidacloprid
Iprodione



Homogeneity

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

Stability

1st Analysis - prior to the sample shipment

2nd Analysis - after the deadline for reporting results

3rd Analysis - reproducing the delivery conditions that the samples experienced during 48 hours

All the pesticides passed the homogeneity test

All the pesticides passed the long stability test

Chlorfenapyr and Diazinon did not pass the 48 hours stability test

Long term stability test (1)

(mg/Kg)	Boscalid	Carbendazim	Chlorantraniliprol e	Chlorfenapyr	Chlorpyrifos	Diazinon	Omethoate (expressed as dimethoate)	Ethoprophos	Famoxadone
Day 1 (Sample 046_A)	0,340	0,140	0,180	0,050	0,160	0,170	0,024	0,042	0,056
Day 1 (Sample 046_B)	0,340	0,140	0,190	0,028	0,110	0,180	0,025	0,044	0,056
Day 1 (Sample 186_A)	0,380	0,150	0,190	0,038	0,140	0,170	0,024	0,045	0,058
Day 1 (Sample 186_B)	0,380	0,150	0,190	0,040	0,160	0,200	0,025	0,046	0,056
Day 1 (Sample 212_A)	0,320	0,140	0,180	0,047	0,160	0,170	0,024	0,043	0,052
Day 1 (Sample 212_B)	0,350	0,140	0,180	0,047	0,120	0,180	0,024	0,042	0,047
Mean 1	0,352	0,143	0,185	0,042	0,142	0,178	0,024	0,044	0,054
Day 3 (Sample 127_A)	0,360	0,150	0,190	0,044	0,140	0,180	0,026	0,043	0,051
Day 3 (Sample 127_B)	0,340	0,140	0,180	0,039	0,140	0,160	0,026	0,041	0,051
Day 3 (Sample 193_A)	0,350	0,140	0,190	0,042	0,150	0,180	0,024	0,042	0,050
Day 3 (Sample 193_B)	0,350	0,140	0,190	0,044	0,150	0,150	0,025	0,041	0,051
Day 3 (Sample 250_A)	0,350	0,140	0,180	0,041	0,150	0,150	0,025	0,041	0,052
Day 3 (Sample 250_B)	0,370	0,140	0,190	0,042	0,150	0,180	0,025	0,042	0,052
Mean3	0,353	0,142	0,187	0,042	0,147	0,167	0,025	0,042	0,051
(M3 – M1)	0,002	-0,002	0,002	0,000	0,005	-0,012	0,001	-0,002	-0,003
M3-M1 ≤ 0.3*σ	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

Long term stability test (2)

(mg/Kg)	Fipronil	Flubendiamide	Fluopyram	Imidacloprid	Iprodione	Lufenuron	Pyraclostrobin	Propamocarb
Day 1 (Sample 046_A)	0,019	0,060	0,120	0,160	0,047	0,660	0,190	0,140
Day 1 (Sample 046_B)	0,013	0,064	0,087	0,160	0,033	0,760	0,200	0,140
Day 1 (Sample 186_A)	0,017	0,064	0,110	0,170	0,043	0,650	0,200	0,140
Day 1 (Sample 186_B)	0,019	0,064	0,130	0,180	0,050	0,750	0,210	0,140
Day 1 (Sample 212_A)	0,019	0,059	0,120	0,170	0,050	0,630	0,190	0,130
Day 1 (Sample 212_B)	0,013	0,056	0,093	0,160	0,046	0,610	0,180	0,130
Mean 1	0,017	0,061	0,110	0,167	0,045	0,677	0,195	0,137
Day 3 (Sample 127_A)	0,018	0,064	0,110	0,170	0,043	0,760	0,200	0,140
Day 3 (Sample 127_B)	0,017	0,058	0,100	0,170	0,041	0,740	0,200	0,130
Day 3 (Sample 193_A)	0,018	0,057	0,110	0,170	0,043	0,670	0,200	0,140
Day 3 (Sample 193_B)	0,018	0,059	0,110	0,170	0,047	0,670	0,200	0,140
Day 3 (Sample 250_A)	0,017	0,059	0,110	0,160	0,043	0,690	0,200	0,140
Day 3 (Sample 250_B)	0,018	0,058	0,100	0,170	0,044	0,700	0,200	0,130
Mean3	0,018	0,059	0,107	0,168	0,044	0,705	0,200	0,137
(M3 – M1)	0,001	-0,002	-0,003	0,002	-0,001	0,028	0,005	0,000
M3-M1 ≤ 0.3*σ	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

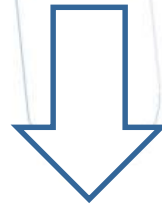
48 hours stability test

(mg/Kg)	Boscalid	Carbendazim	Chlorantraniliprole	Chlorpyrifos	Omethoate (expressed as dimethoate)	Ethoprophos	Famoxadone	Fipronil	Flubendiamide	Fluopyram	Imidacloprid	Iprodione	Lufenuron	Pyraclostrobin	Propaconarb
Day 1 (Sample 046_A)	0,340	0,140	0,180	0,160	0,024	0,042	0,056	0,019	0,060	0,120	0,160	0,047	0,660	0,190	0,140
Day 1 (Sample 046_B)	0,340	0,140	0,190	0,110	0,025	0,044	0,056	0,013	0,064	0,087	0,160	0,033	0,760	0,200	0,140
Day 1 (Sample 186_A)	0,380	0,150	0,190	0,140	0,024	0,045	0,058	0,017	0,064	0,110	0,170	0,043	0,650	0,200	0,140
Day 1 (Sample 186_B)	0,380	0,150	0,190	0,160	0,025	0,046	0,056	0,019	0,064	0,130	0,180	0,050	0,750	0,210	0,140
Day 1 (Sample 212_A)	0,320	0,140	0,180	0,160	0,024	0,043	0,052	0,019	0,059	0,120	0,170	0,050	0,630	0,190	0,130
Day 1 (Sample 212_B)	0,350	0,140	0,180	0,120	0,024	0,042	0,047	0,013	0,056	0,093	0,160	0,046	0,610	0,180	0,130
Mean 1	0,352	0,143	0,185	0,142	0,024	0,044	0,054	0,017	0,061	0,110	0,167	0,045	0,677	0,195	0,137
Day 2 (Sample 150_A)	0,380	0,140	0,180	0,140	0,023	0,042	0,053	0,017	0,056	0,110	0,160	0,047	0,610	0,200	0,140
Day 2 (Sample 150_B)	0,300	0,140	0,180	0,140	0,022	0,041	0,049	0,018	0,054	0,110	0,170	0,045	0,720	0,210	0,140
Day 2 (Sample 145_A)	0,320	0,150	0,190	0,120	0,024	0,042	0,051	0,019	0,058	0,095	0,170	0,039	0,660	0,200	0,130
Day 2 (Sample 145_B)	0,360	0,150	0,190	0,160	0,025	0,045	0,054	0,017	0,059	0,110	0,180	0,048	0,630	0,210	0,140
Day 2 (Sample 231_A)	0,380	0,140	0,180	0,170	0,024	0,044	0,051	0,019	0,059	0,110	0,170	0,076	0,680	0,200	0,140
Day 2 (Sample 231_B)	0,300	0,140	0,180	0,130	0,025	0,043	0,053	0,014	0,059	0,087	0,170	0,036	0,640	0,200	0,140
Mean2	0,340	0,143	0,183	0,143	0,024	0,043	0,052	0,017	0,058	0,104	0,170	0,049	0,657	0,203	0,138
(M2 - M1)	-0,012	0,000	-0,002	0,002	-0,001	-0,001	-0,002	0,001	-0,004	-0,006	0,003	0,004	-0,020	0,008	0,002
M2-M1 ≤ 0.3*σ	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

48 hours stability test

(mg/Kg)	Chlorfenapyr	Diazinon
Day 1 (Sample 046_A)	0,050	0,170
Day 1 (Sample 046_B)	0,028	0,180
Day 1 (Sample 186_A)	0,038	0,170
Day 1 (Sample 186_B)	0,040	0,200
Day 1 (Sample 212_A)	0,047	0,170
Day 1 (Sample 212_B)	0,047	0,180
Mean 1	0,042	0,178
Day 2 (Sample 150_A)	0,041	0,170
Day 2 (Sample 150_B)	0,049	0,140
Day 2 (Sample 145_A)	0,046	0,150
Day 2 (Sample 145_B)	0,054	0,170
Day 2 (Sample 231_A)	0,059	0,190
Day 2 (Sample 231_B)	0,042	0,140
Mean2	0,049	0,160
(M2 – M1)	0,007	-0,018
M2-M1 ≤ 0.3*σ	Not pass	Not pass

	MRRL (mg/kg)	Robust Mean (mg/kg)	CV (%)	Uncertainty (mg/kg)
Chlorfenapyr	0,01	0,047	15,6	0,0008
Diazinon	0,01	0,170	18,2	0,0031





The Scientific Committee decided to evaluate those pesticides

Results

New Forms

Welcome: JOHN.DOE@TEST.NU [Logout](#)

EURL-FV EU Reference Laboratories for Residues of Pesticides

Main page EUPT-FV19

Links to subpages:	European Commission's Proficiency Test on Pesticides Residues in Fruits and Vegetables - EUPT-FV19	Contact:																					
<p>0. Pesticide Scope</p> <p>Select Pesticide Scope</p> <hr/> <p>1. Test item receipt</p> <p>Acknowledge receipt of parcel with test sample.</p> <hr/> <p>2. Identified Pesticides</p> <p>Specify which pesticides you have identified</p> <hr/> <p>3. Results</p> <p>Enter your analytical results</p> <hr/> <p>4. Methods</p> <p>Describe the methods used for detected pesticides.</p> <hr/> <p>5. Additional information requested</p> <p>Describe the methods used for false negatives etc.</p>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Subpage</th> <th>Open</th> <th>Close</th> </tr> </thead> <tbody> <tr> <td>0. Pesticide Scope</td> <td>06 Feb 2017</td> <td>13 Feb 2017</td> </tr> <tr> <td>1. Test item receipt</td> <td>13 Feb 2017</td> <td>17 Feb 2017</td> </tr> <tr> <td>2. Identified Pesticides</td> <td>13 Feb 2017</td> <td>06 Mar 2017</td> </tr> <tr> <td>3. Results</td> <td>13 Feb 2017</td> <td>06 Mar 2017</td> </tr> <tr> <td>4. Methods</td> <td>13 Feb 2017</td> <td>06 Mar 2017</td> </tr> <tr> <td>5. Additional information requested</td> <td>07 Mar 2017</td> <td>13 Mar 2017</td> </tr> </tbody> </table> <p>Welcome to the result submission pages of EUPT-FV19. This website is accessible according to the table above.</p> <p>First of all, fill in the laboratory scope in 0. Pesticide Scope, indicating which pesticides you analyse from the Target Pesticide List and from the Voluntary Target List. Please remember that after the deadline it WILL NOT BE POSSIBLE to make changes in Form 0 (scope)</p> <p>As soon as you receive the package with the test items, please enter sub-page 1. Test item receipt to notify the organizer</p> <p>To submit your EUPT-FV19 results, please use sub-pages 2-5. Each sub-page contains instructions on how to enter the data, and each sub-page must be saved separately.</p> <p>Enter the sub-pages in order 2-5</p> <p>2. Identified Pesticides. Please indicate which of the analysed pesticides were detected in the test item and in the Blank.</p> <p>3. Results. Here you can enter the concentrations of the pesticides you have determined in the Test item and the Blank item, as well as the recoveries.</p> <p>4. Methods. Here you can enter information about the methods you have used for each pesticide you have analysed for. Please indicate details about the analytical procedure, e.g. sample weight, extraction solvents, clean-up, calibration, ISTDs, GC- and HPLC-detectors. If no sufficient information on the method used is given, the organizer reserves the right not to accept the analytical results reported.</p> <p>Finalise with sub-page</p> <p>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 identified in the sample (false negatives)</p> <p>Remember to save each sub-page separately before you leave it! You can enter the pages as often as you wish until the website is closed. You can e.g. enter all data for the GC pesticides one day and the LC results another day. Just remember to enter data in the right order from sub-page 2 to 5, because data on sub-page 2 is used on sub-page 3, etc. All data correction must be done before the deadline.</p> <p>The EURL-FV undertakes to answer all the questions concerning this European Union Proficiency Test and to correct any mistake attributable to errors on its part. If a participant has any comment about any aspect of the EUPT-FV he/she should contact us by filling in this form. An investigation will be conducted and</p>	Subpage	Open	Close	0. Pesticide Scope	06 Feb 2017	13 Feb 2017	1. Test item receipt	13 Feb 2017	17 Feb 2017	2. Identified Pesticides	13 Feb 2017	06 Mar 2017	3. Results	13 Feb 2017	06 Mar 2017	4. Methods	13 Feb 2017	06 Mar 2017	5. Additional information requested	07 Mar 2017	13 Mar 2017	<p>EUPT-FV-19 Contact Form</p> <hr/> <p>Guides</p> <p>Follow this link to User Guides.</p> <hr/> <p>Export to Excel</p> <hr/> <p>When completed, you can download your results in a csv file</p>
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5. Additional information requested	07 Mar 2017	13 Mar 2017																					

Voluntary Pesticides

0.019-0.058 mg/kg

	Robust Mean X* (mg/kg)
Fipronil	0,019
Omethoate	0,021
Sulfoxaflor	0,032
Ethoprophos	0,038
Famoxadone	0,044
Chlorfenapyr	0,047
Iprodione	0,051
Flubendiamide	0,058
Propamocarb	0,123
Fluopyram	0,128
Chlorpyrifos	0,131
Carbendazim	0,134
Imidacloprid	0,158
Diazinon	0,170
Chlorantraniliprole	0,178
Pyraclostrobin	0,185
Boscalid	0,378
Penflufen	0,512
Lufenuron	0,644

Voluntary Pesticides

0.019-0.058 mg/kg

0.123-0.185 mg/kg

	Robust Mean X* (mg/kg)
Fipronil	0,019
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Fluopyram	0,128
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Carbendazim	0,134
Imidacloprid	0,158
Diazinon	0,170
Chlorantraniliprole	0,178
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Voluntary Pesticides

0.019-0.058 mg/kg

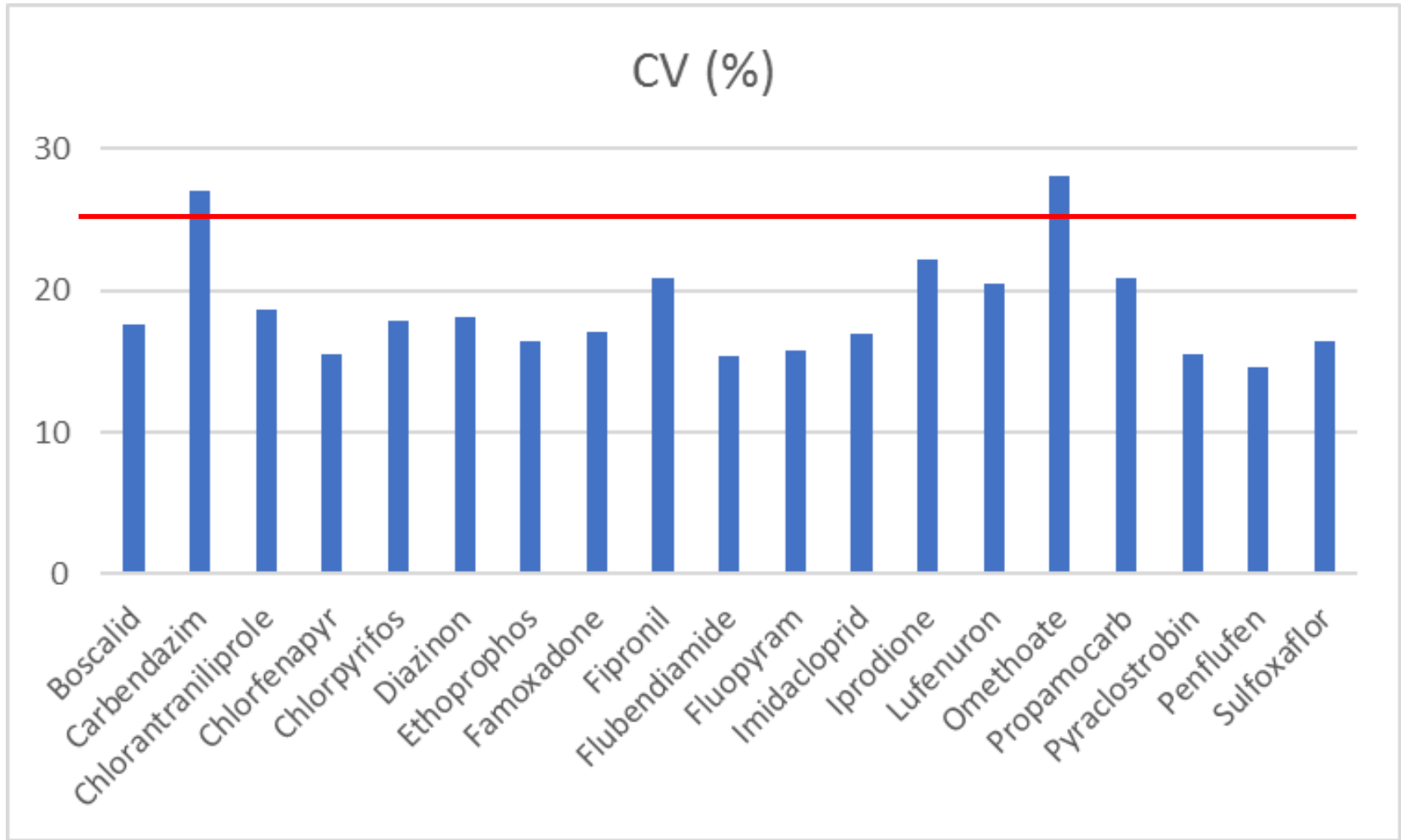
0.123-0.185 mg/kg

0.378-0.644mg/kg

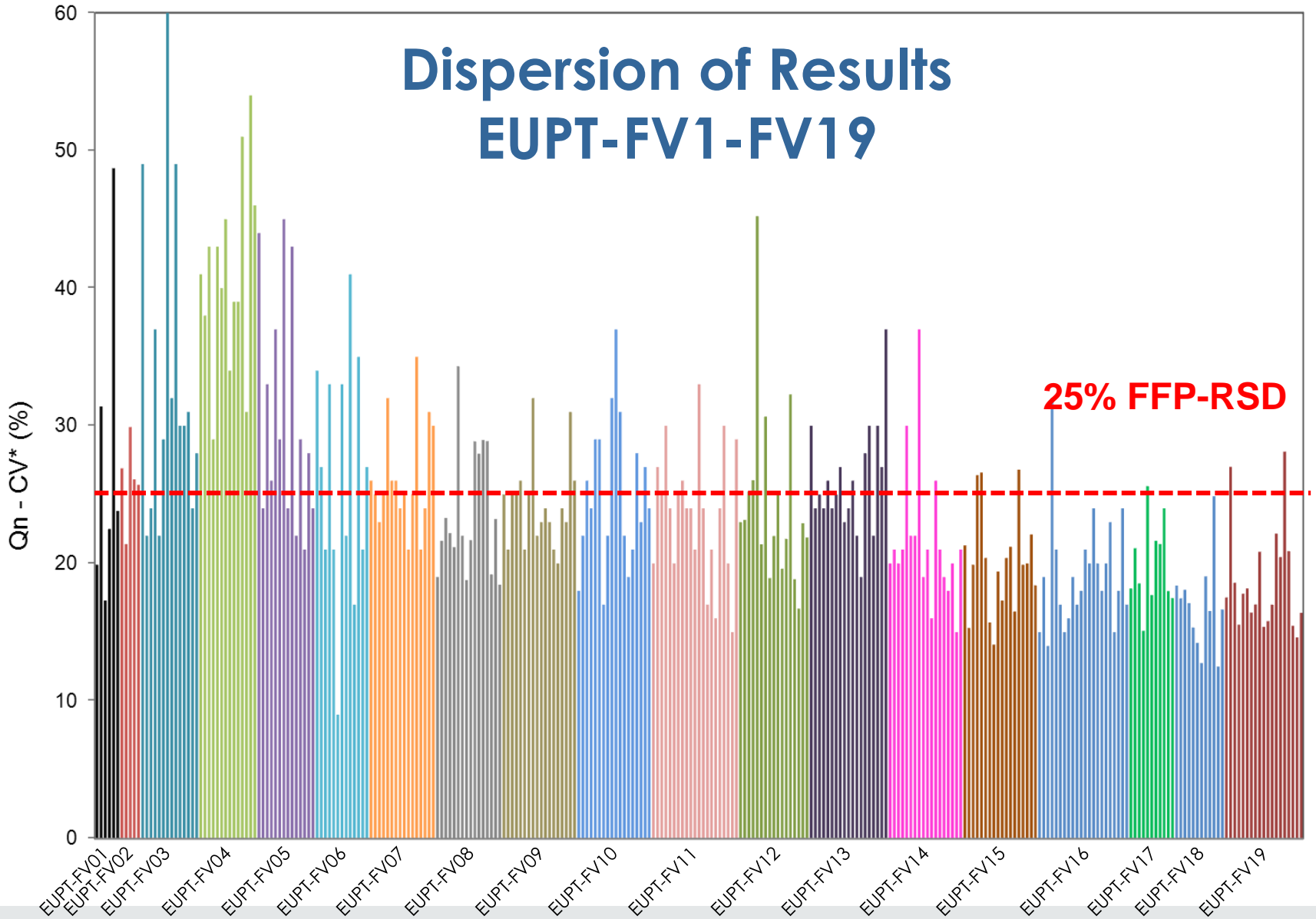
	Robust Mean X* (mg/kg)
Fipronil	0,019
Omethoate	0,021
Sulfoxaflor	0,032
Ethoprophos	0,038
Famoxadone	0,044
Chlorfenapyr	0,047
Iprodione	0,051
Flubendiamide	0,058
Propamocarb	0,123
Fluopyram	0,128
Chlorpyrifos	0,131
Carbendazim	0,134
Imidacloprid	0,158
Diazinon	0,170
Chlorantraniliprole	0,178
Pyraclostrobin	0,185
Boscalid	0,378
Penflufen	0,512
Lufenuron	0,644

	MRRL (mg/kg)	Robust Mean (mg/kg)	CV (%)	Uncertainty (mg/kg)
Boscalid	0.01	0.378	17.5	0.0068
Carbendazim	0,01	0,134	27,0	0,0015
Chlorantraniliprole	0,01	0,178	18,6	0,0037
Chlorfenapyr	0,01	0,047	15,6	0,0008
Chlorpyrifos	0,01	0,131	17,8	0,0024
Diazinon	0,01	0,170	18,2	0,0031
Ethoprophos	0,008	0,038	16,4	0,0007
Famoxadone	0,01	0,044	17,0	0,0009
Fipronil	0,004	0,019	20,8	0,0004
Flubendiamide	0,01	0,058	15,4	0,0011
Fluopyram	0,01	0,128	15,8	0,0023
Imidacloprid	0,01	0,158	17,0	0,0029
Iprodione	0,01	0,051	22,2	0,0012
Lufenuron	0.01	0.644	20.5	0.0145
Omethoate	0,003	0,021	28,1	0,0006
Propamocarb	0,01	0,123	20,9	0,0028
Pyraclostrobin	0,01	0,185	15,5	0,0030
Penflufen	0,01	0,512	14,6	0,0143
Sulfoxaflor	0,01	0,032	16,4	0,0010

Dispersion of Results



Dispersion of Results EUIPT-FV1-FV19



Pesticides	No. of Reported Results	No. of False Negative Results	No. of Not Analysed Results	Percentage of Labs Reporting Results (out of 153)
Boscalid	149	0	4	97
Carbendazim	134	1	18	88
Chlorantraniliprole	126	1	26	82
Chlorfenapyr	127	2	24	83
Chlorpyrifos	151	1	1	99
Diazinon	153	0	0	100
Ethoprophos	141	1	11	92
Famoxadone	117	5	31	76
Fipronil	129	3	21	84
Flubendiamide	101	1	51	66
Fluopyram	117	1	35	76
Imidacloprid	137	0	16	90
Iprodione	140	2	11	92
Lufenuron	129	0	24	84
Omethoate	133	6	14	87
Penflufen	43	2	108	28
Propamocarb	128	5	20	84
Pyraclostrobin	141	0	12	92
Sulfoxaflor	43	3	107	28

Pesticides	No. of Reported Results	No. of False Negative Results	No. of Not Analysed Results	Percentage of Labs Reporting Results (out of 153)
Boscalid	149	0	4	97
Carbendazim	134	1	18	88
Chlorantraniliprole	126	1	26	82
Chlorfenapyr	127	2	24	83
Chlorpyrifos	151	1	1	99
Diazinon	153	0	0	100
Ethoprophos	141	1	11	92
Famoxadone	117	5	31	76
Fipronil	129	3	21	84
Flubendiamide	101	1	51	66
Fluopyram	117	1	35	76
Imidacloprid	137	0	16	90
Iprodione	140	2	11	92
Lufenuron	129	0	24	84
Omethoate	133	6	14	87
Penflufen	43	2	108	28
Propamocarb	128	5	20	84
Pyraclostrobin	141	0	12	92
Sulfoxaflor	43	3	107	28

z-Scores

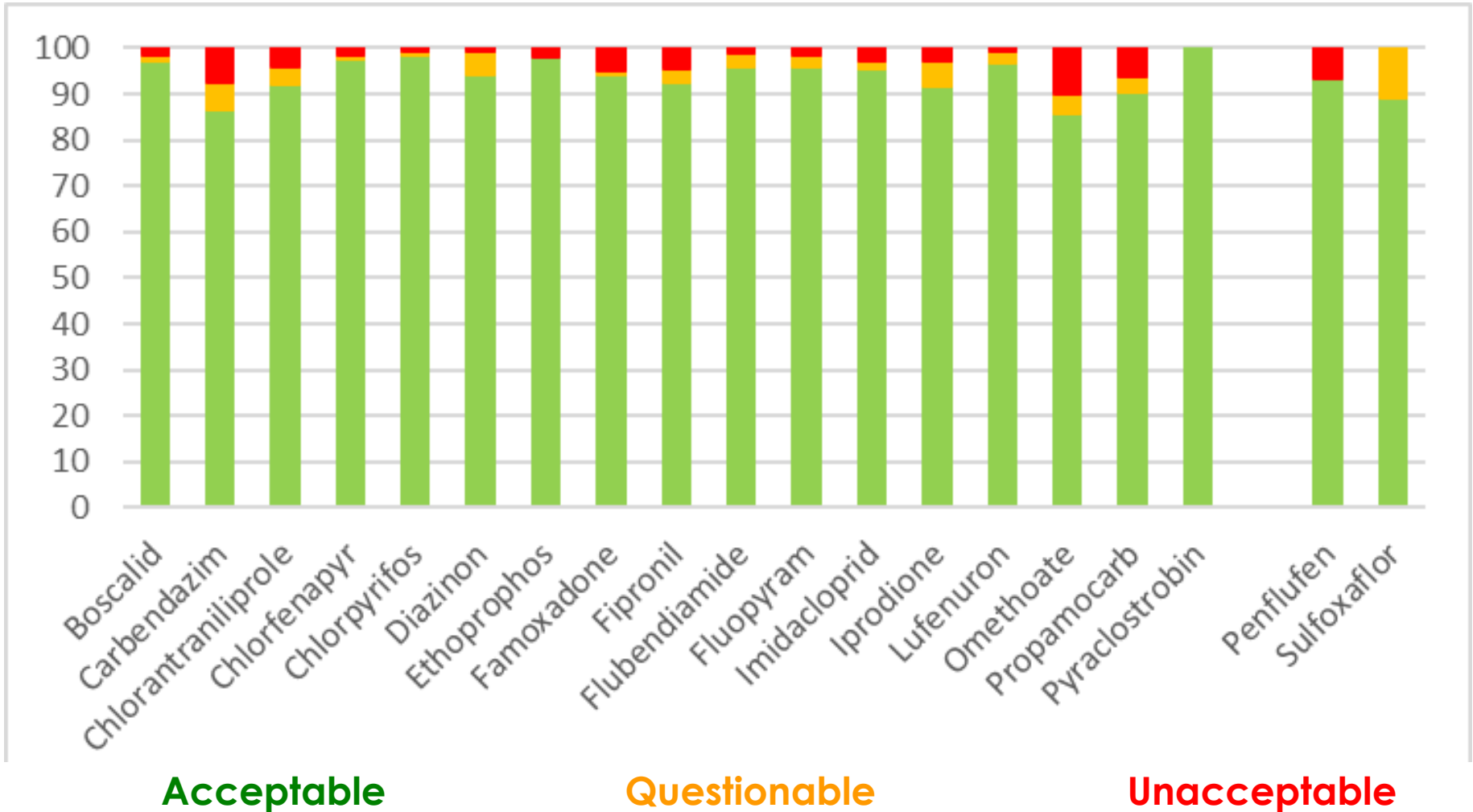
Z Scores classification

Pesticides	Robust Mean (mg/kg)	% Acceptable z scores	% Questionable z scores	% Unacceptable z scores
Boscalid	0,378	97,3	1,3	1,3
Carbendazim	0,134	86,7	5,9	7,4
Chlorantraniliprole	0,178	92,1	3,9	3,9
Chlorfenapyr	0,047	97,7	0,8	1,6
Chlorpyrifos	0,131	98,7	0,7	0,7
Diazinon	0,170	94,1	5,2	0,7
Ethoprophos	0,038	97,9	0,0	2,1
Famoxadone	0,044	94,3	0,8	4,9
Fipronil	0,019	92,4	3,0	4,5
Flubendiamide	0,058	96,1	2,9	1,0
Fluopyram	0,128	95,8	2,5	1,7
Imidacloprid	0,158	95,6	1,5	2,9
Iprodione	0,051	91,5	5,6	2,8
Lufenuron	0,644	96,9	2,3	0,8
Omethoate	0,021	85,6	4,3	10,1
Propamocarb	0,123	90,2	3,8	6,0
Pyraclostrobin	0,185	100,0	0,0	0,0
Penflufen	0,512	93,3	0,0	6,7
Sulfoxaflor	0,032	89,1	10,9	0,0

Z Scores classification

Pesticides	Robust Mean (mg/kg)	% Acceptable z scores	% Questionable z scores	% Unacceptable z scores
Boscalid	0,378	97,3	1,3	1,3
Carbendazim	0,134	86,7	5,9	7,4
Chlorantraniliprole	0,178	92,1	3,9	3,9
Chlorfenapyr	0,047	97,7	0,8	1,6
Chlorpyrifos	0,131	98,7	0,7	0,7
Diazinon	0,170	94,1	5,2	0,7
Ethoprophos	0,038	97,9	0,0	2,1
Famoxadone	0,044	94,3	0,8	4,9
Fipronil	0,019	92,4	3,0	4,5
Flubendiamide	0,058	96,1	2,9	1,0
Fluopyram	0,128	95,8	2,5	1,7
Imidacloprid	0,158	95,6	1,5	2,9
Iprodione	0,051	91,5	5,6	2,8
Lufenuron	0,644	96,9	2,3	0,8
Omethoate	0,021	85,6	4,3	10,1
Propamocarb	0,123	90,2	3,8	6,0
Pyraclostrobin	0,185	100,0	0,0	0,0
Penflufen	0,512	93,3	0,0	6,7
Sulfoxaflor	0,032	89,1	10,9	0,0

Z Scores classification

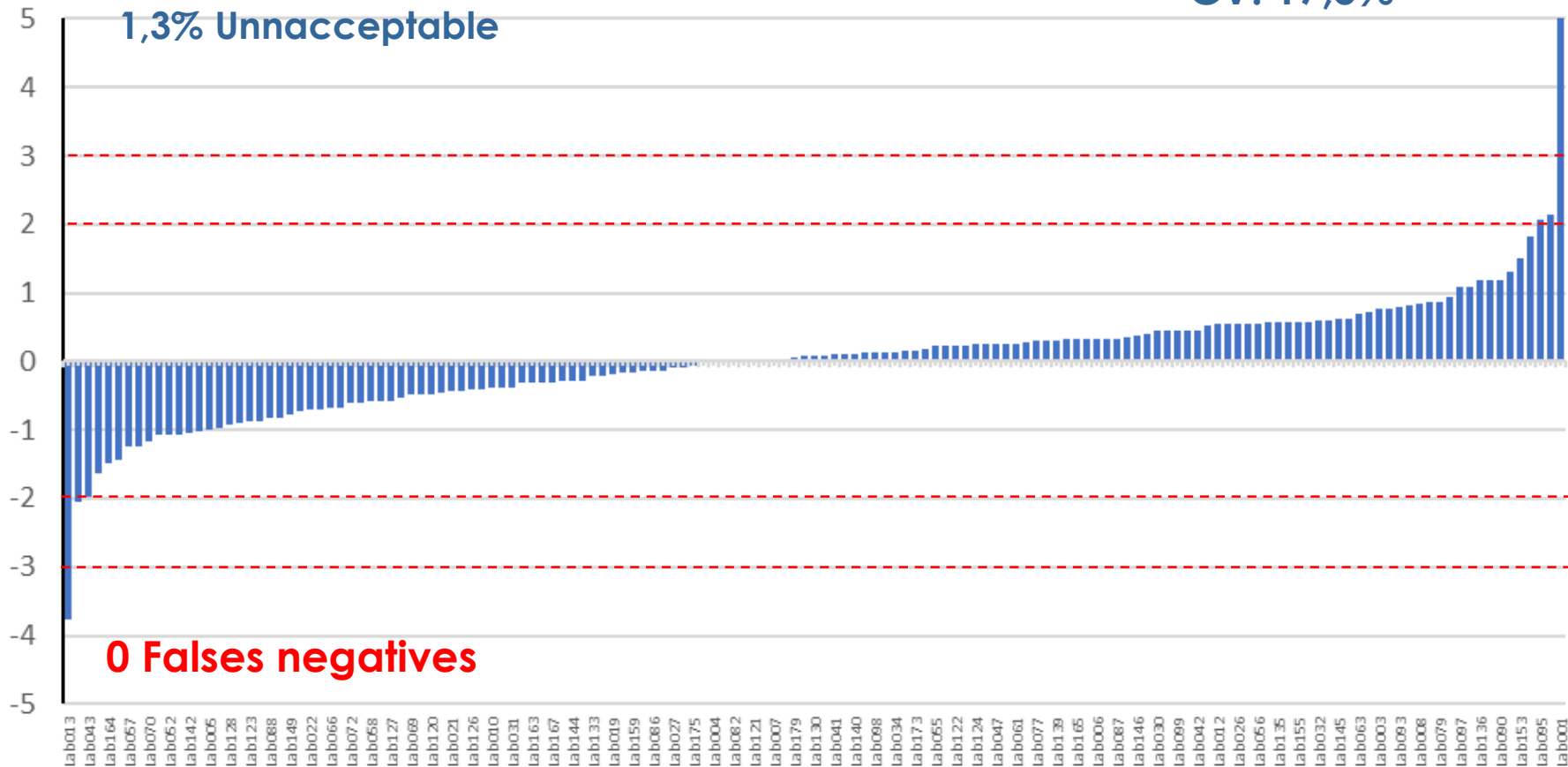




97,3% Acceptable
1,3% Questionable
1,3% Unacceptable

Boscalid

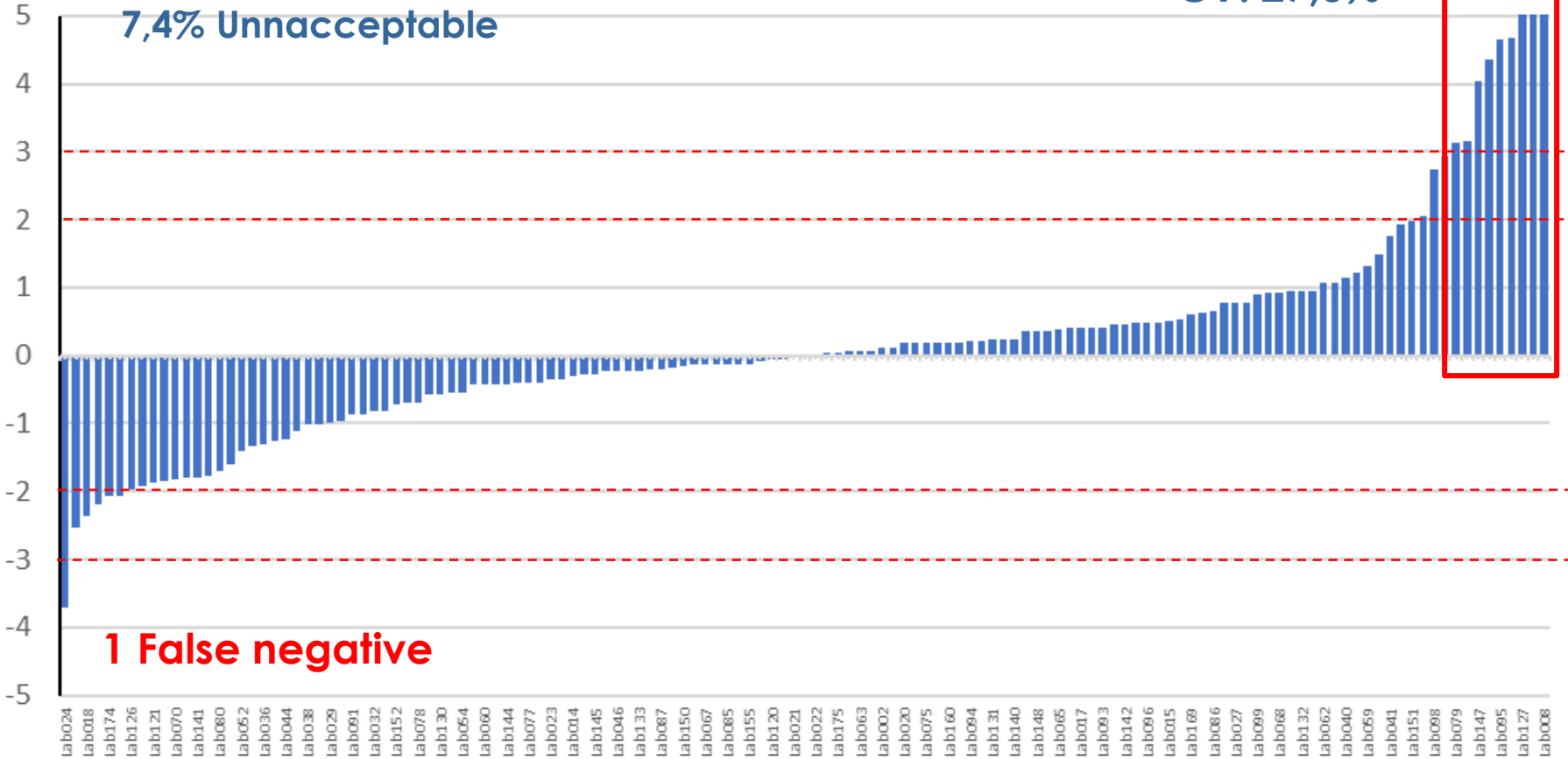
Robust Mean: 0,378 mg/kg
CV: 17,5%



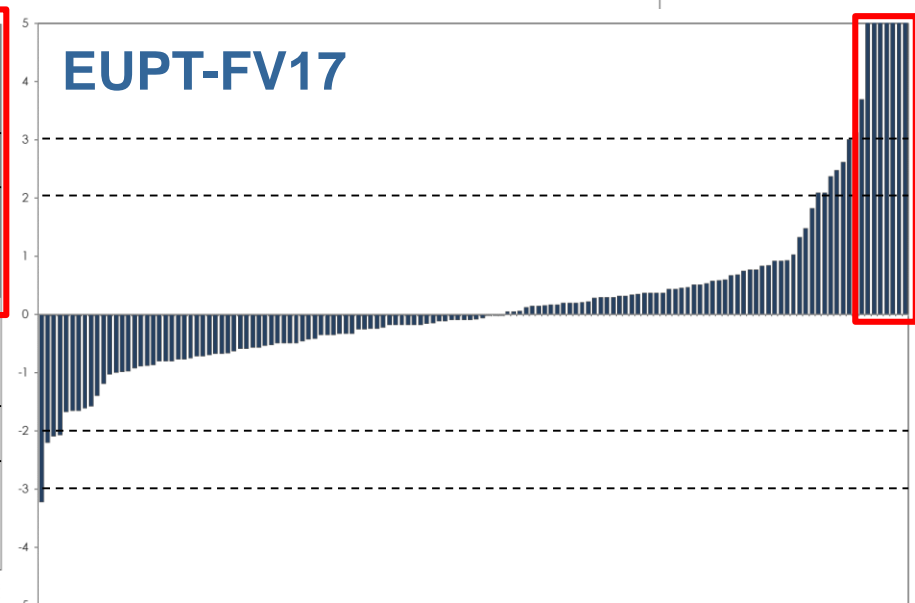
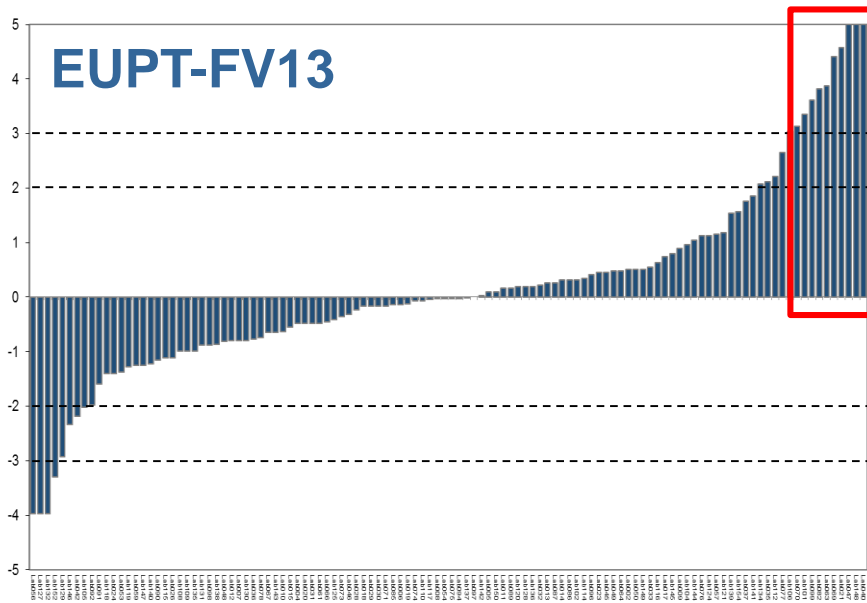
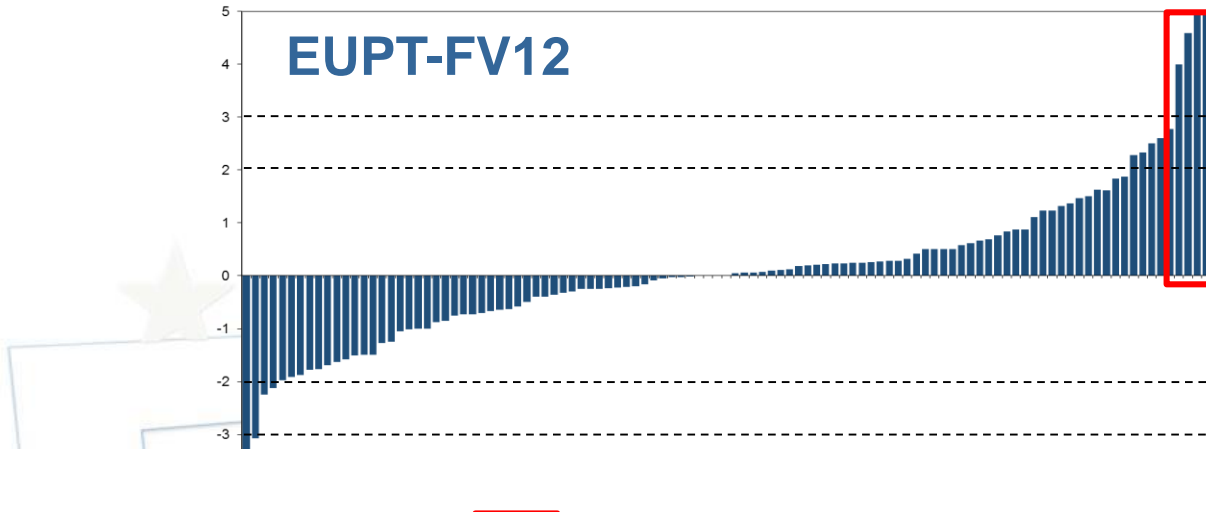
86,7% Acceptable
5,9% Questionable
7,4% Unacceptable

Carbendazim

Robust Mean: 0,134 mg/kg
CV: 27,0%

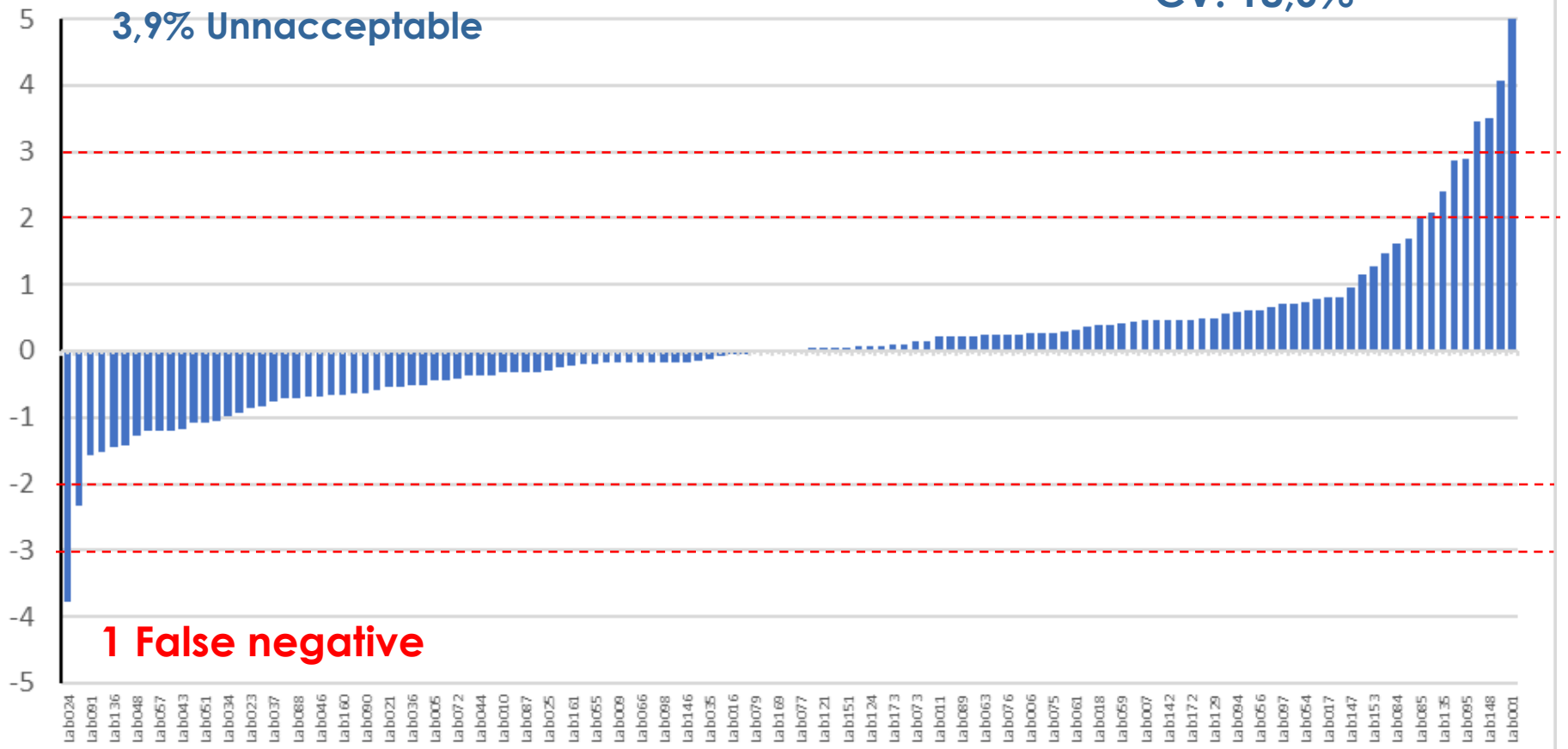


Carbendazim



92,1% Acceptable
3,9% Questionable
3,9% Unacceptable

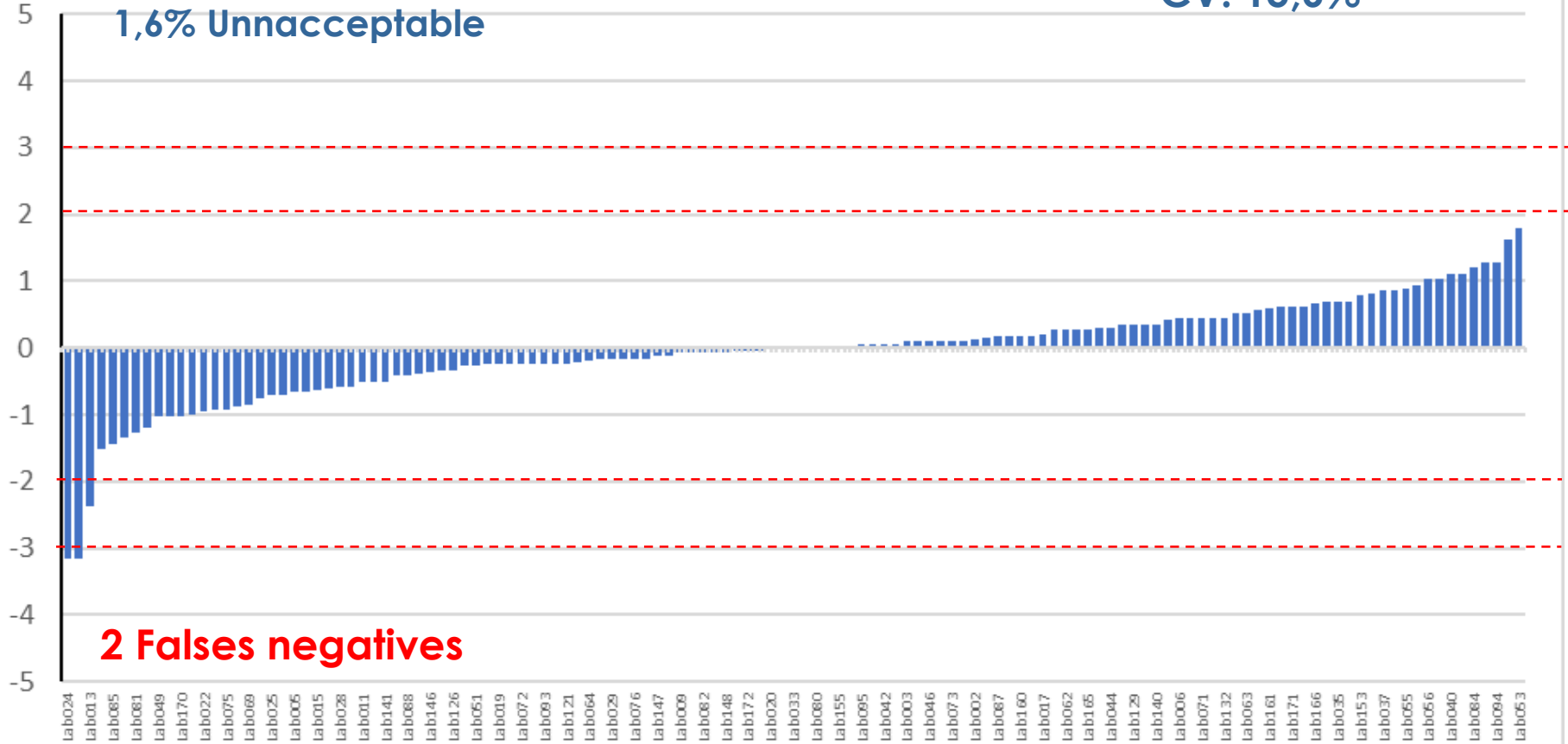
Chlorantraniliprole Robust Mean: 0,178 mg/kg
CV: 18,6%



97,7% Acceptable
0,8% Questionable
1,6% Unacceptable

Chlorfenapyr

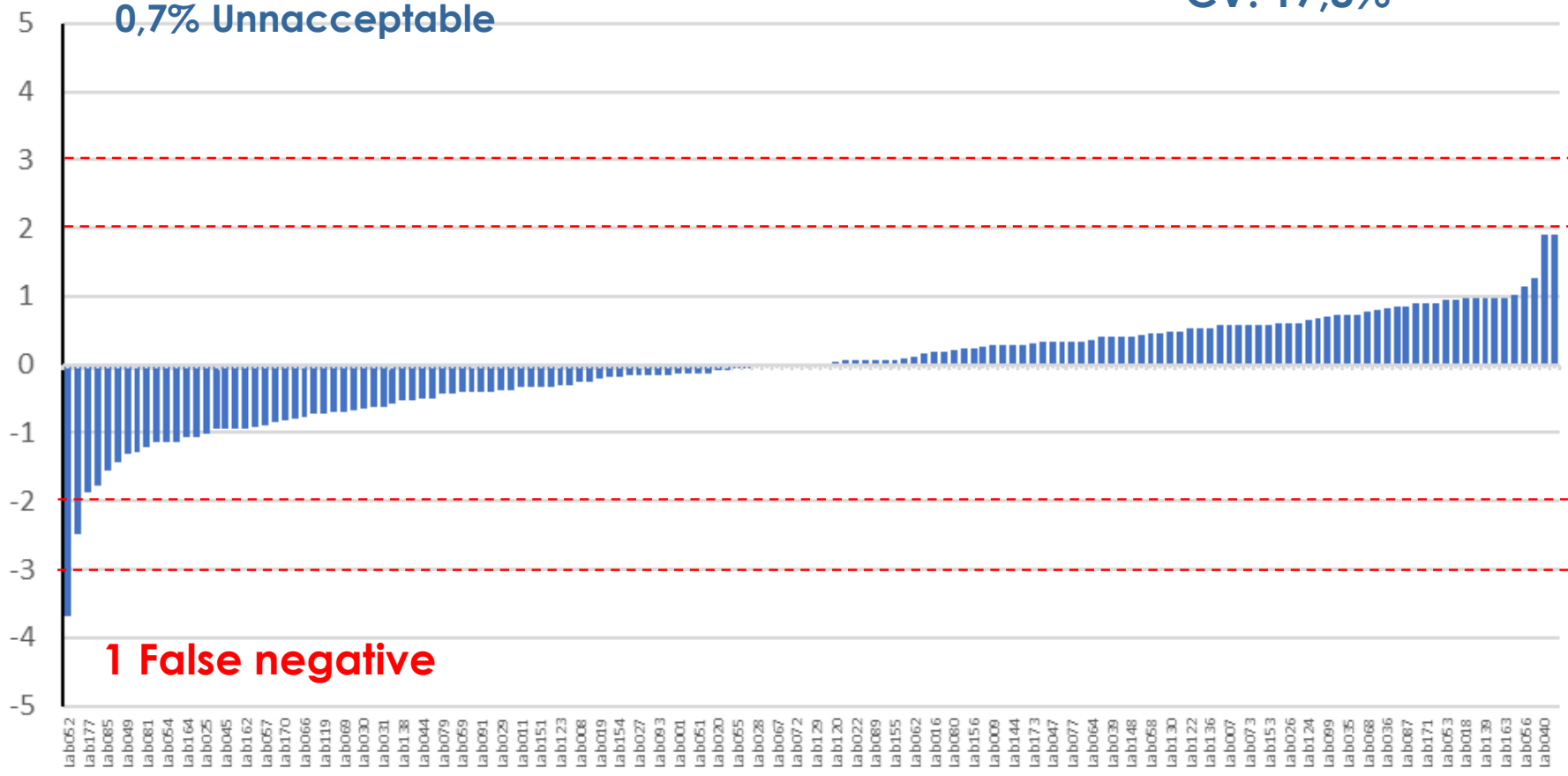
Robust Mean: 0,047 mg/kg
CV: 15,6%



98,7% Acceptable
0,7% Questionable
0,7% Unacceptable

Chlorpyrifos

Robust Mean: 0,131 mg/kg
CV: 17,8%

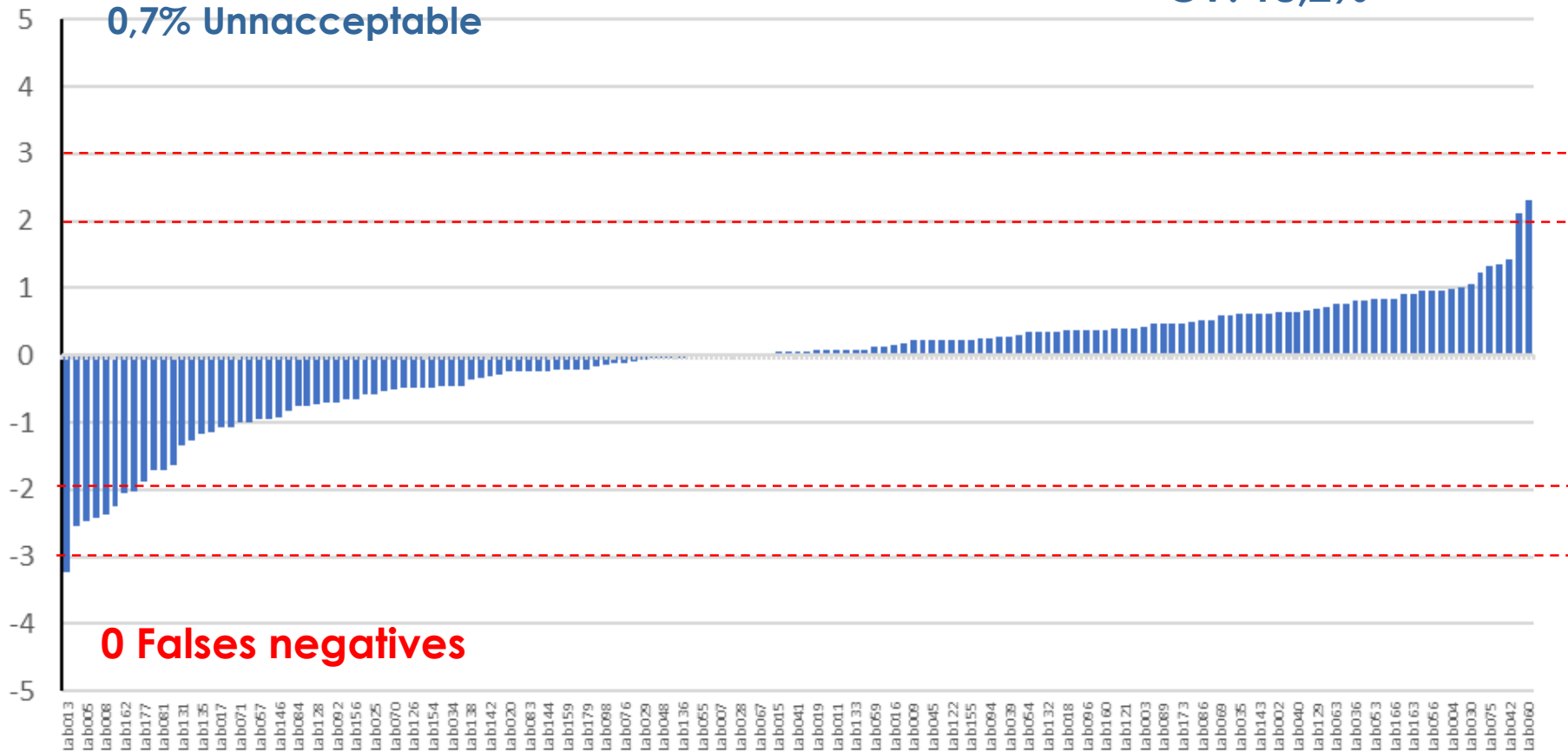


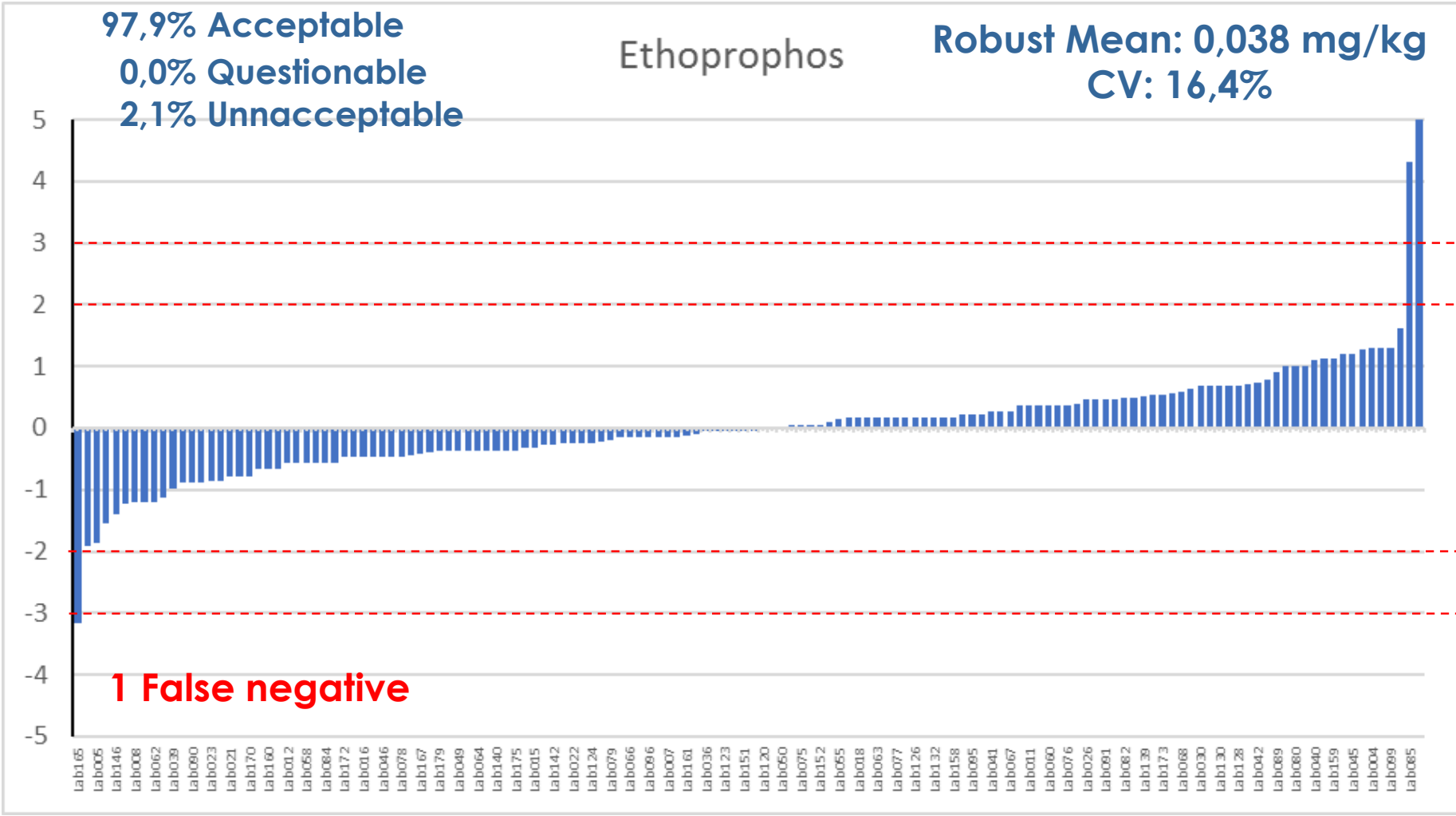
1 False negative

94,1% Acceptable
5,2% Questionable
0,7% Unacceptable

Diazinon

Robust Mean: 0,170 mg/kg
CV: 18,2%

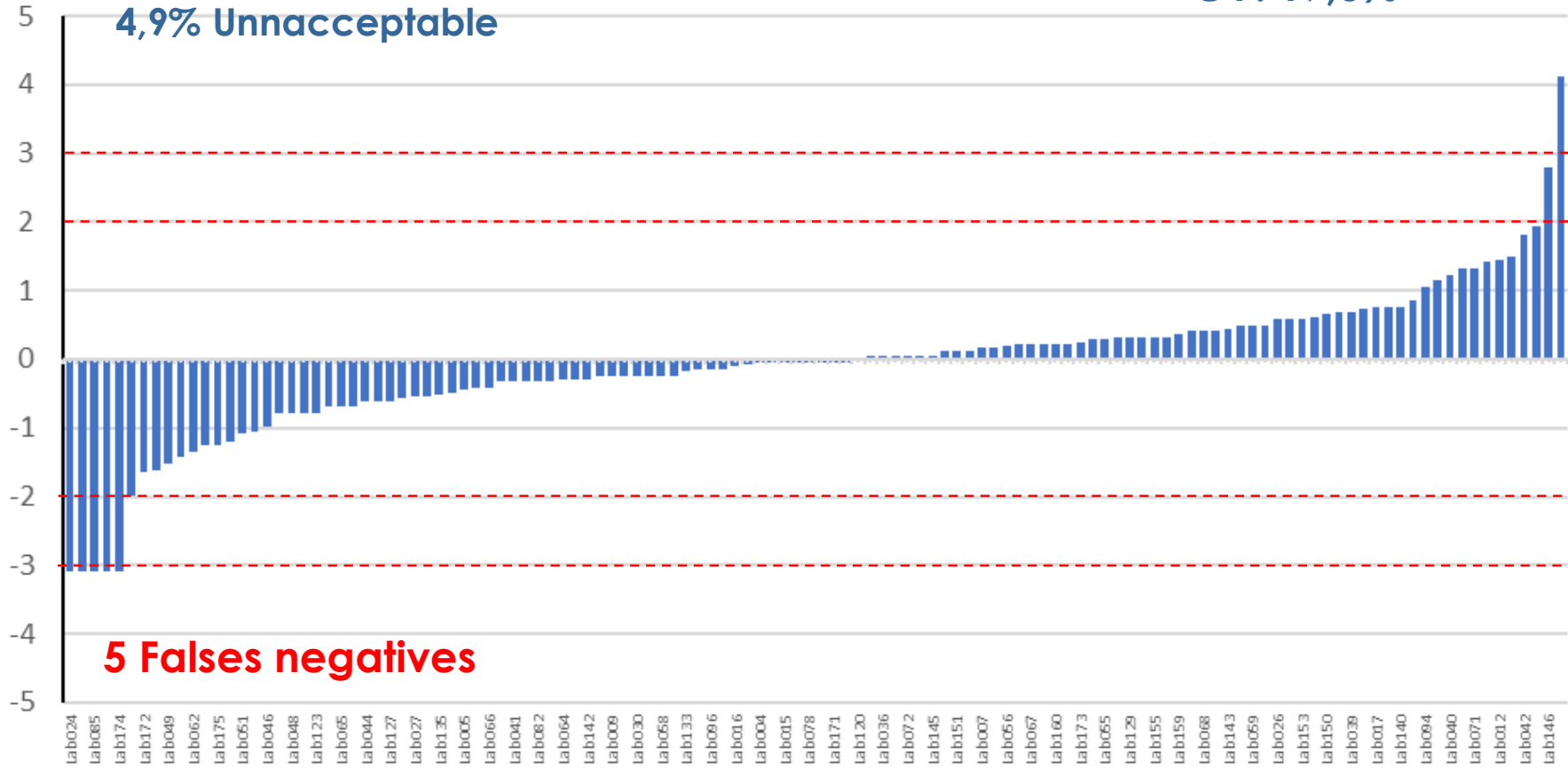




94,3% Acceptable
0,8% Questionable
4,9% Unacceptable

Famoxadone

Robust Mean: 0,044 mg/kg
CV: 17,0%



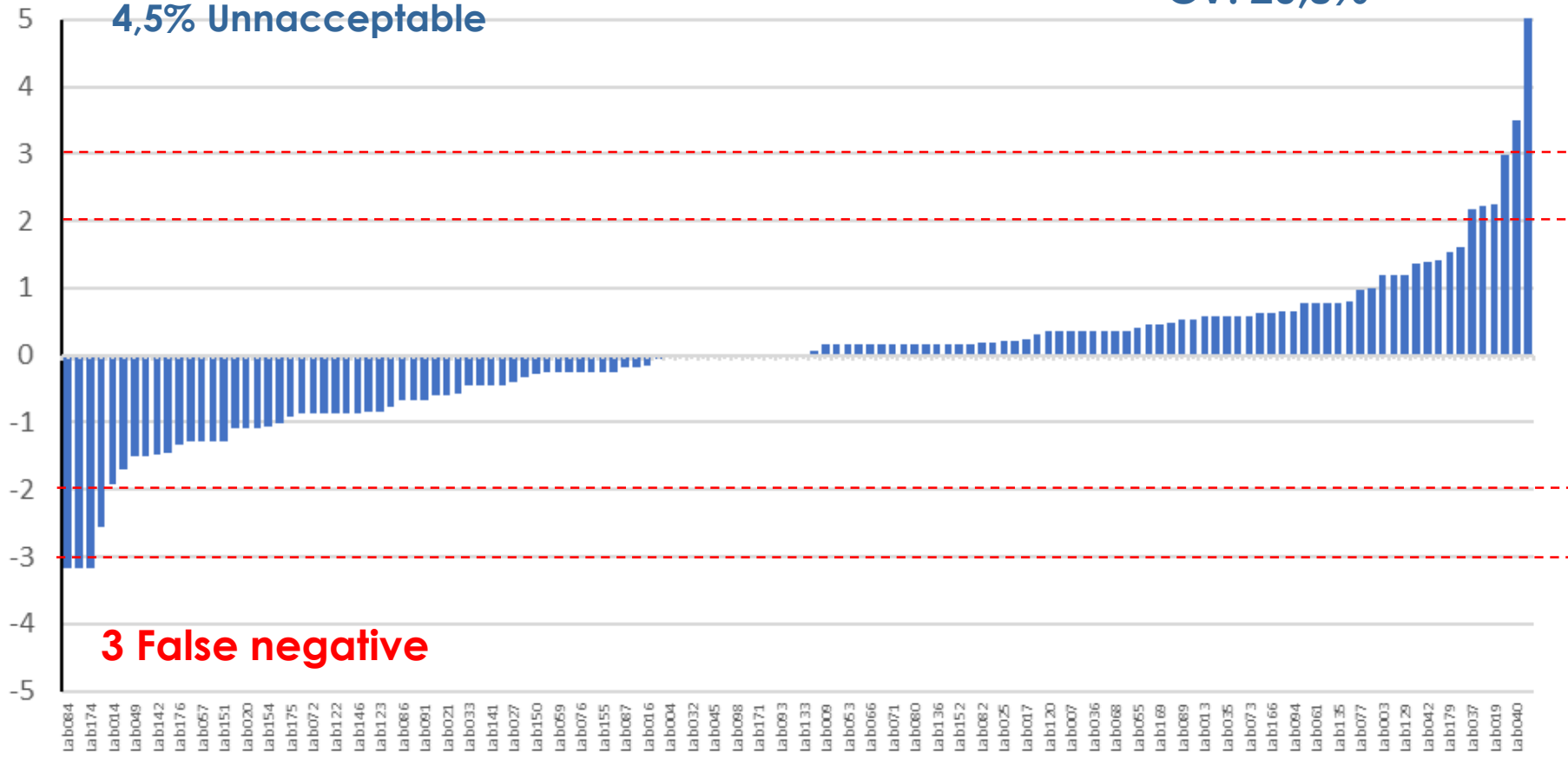
5 Falses negatives



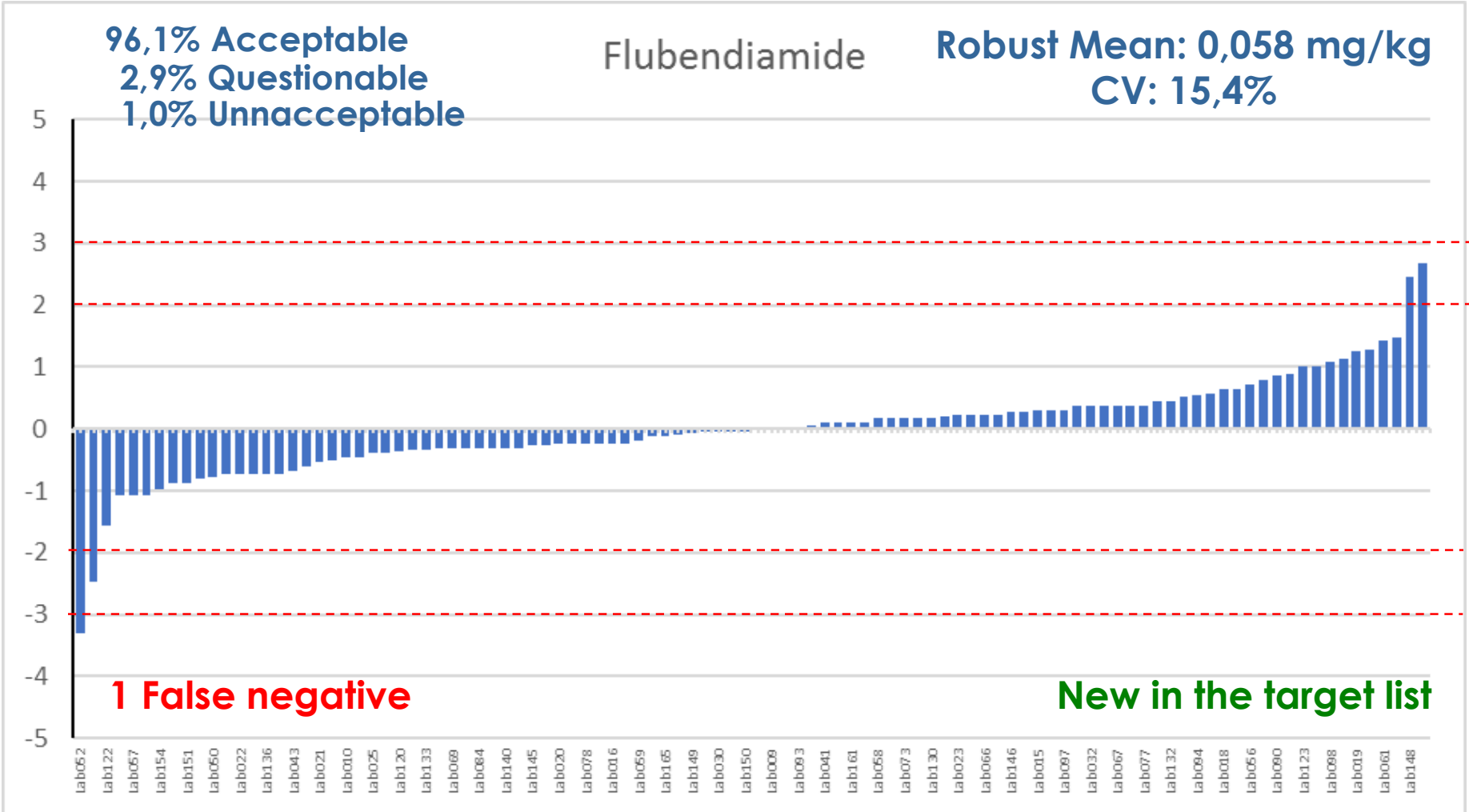
92,4% Acceptable
3,0% Questionable
4,5% Unacceptable

Fipronil

Robust Mean: 0,019 mg/kg
CV: 20,8%



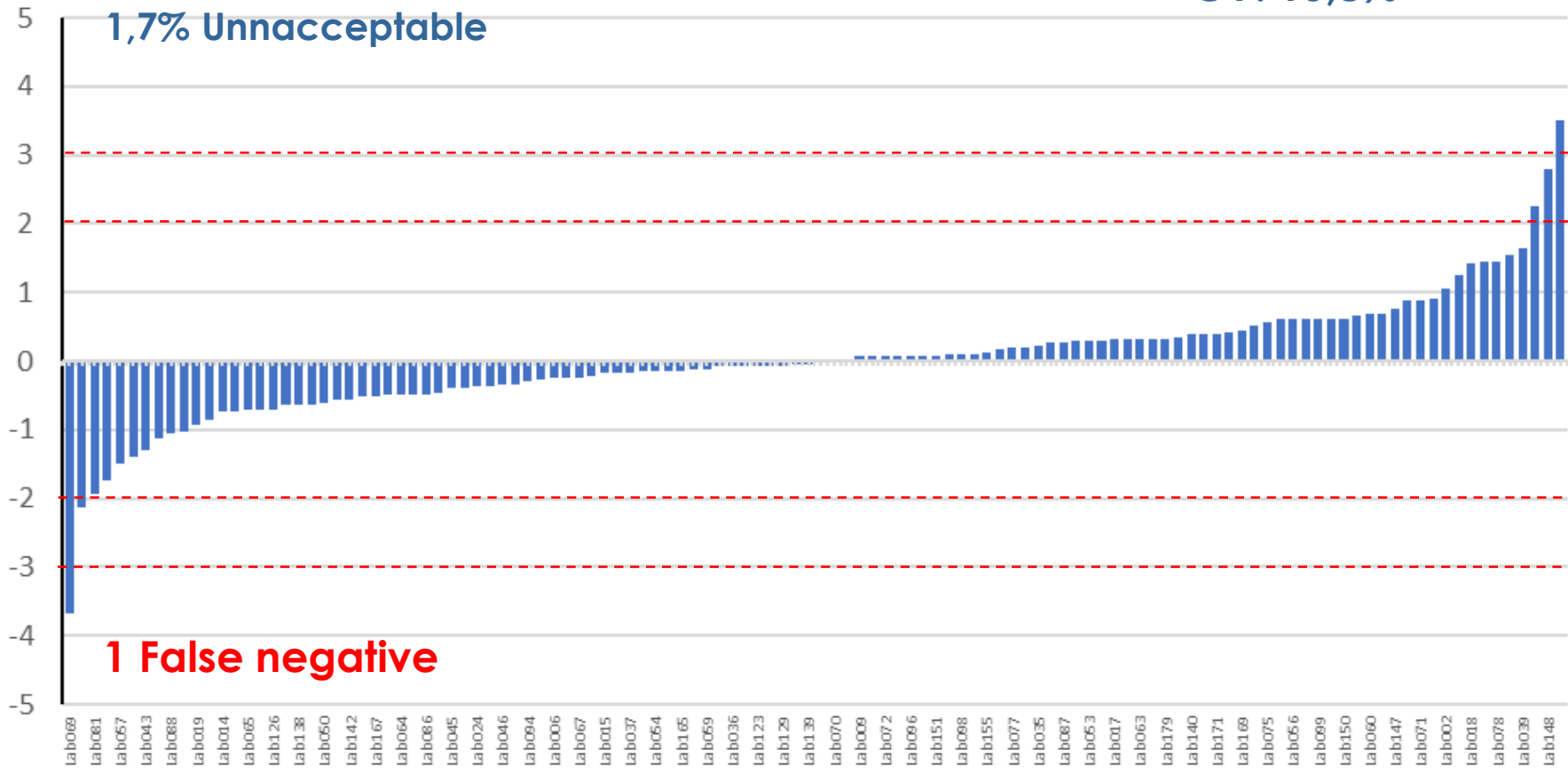
3 False negative



95,8% Acceptable
2,5% Questionable
1,7% Unacceptable

Fluopyram

Robust Mean: 0,128 mg/kg
CV: 15,8%

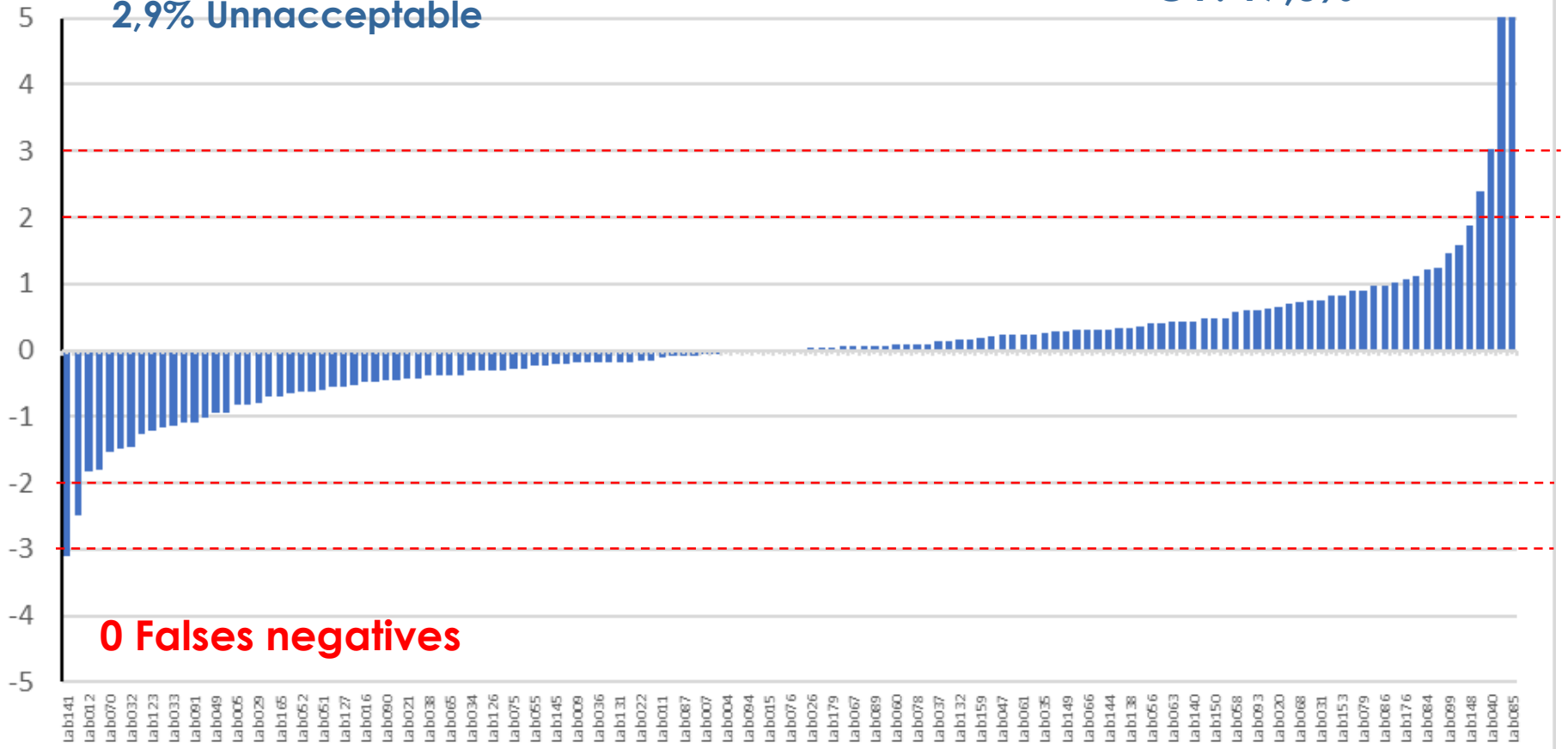


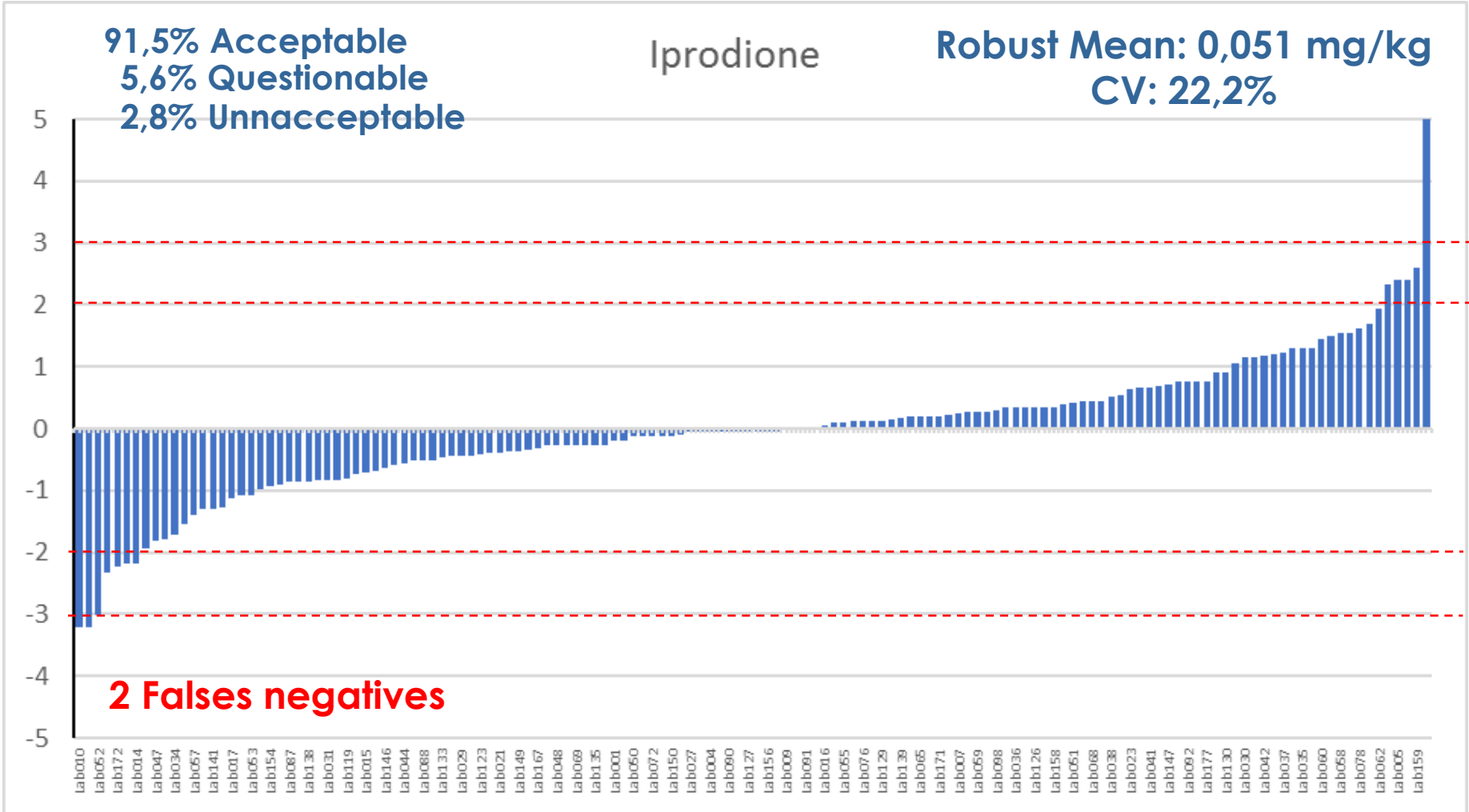
1 False negative

95,6% Acceptable
1,5% Questionable
2,9% Unacceptable

Imidacloprid

Robust Mean: 0,158 mg/kg
CV: 17,0%



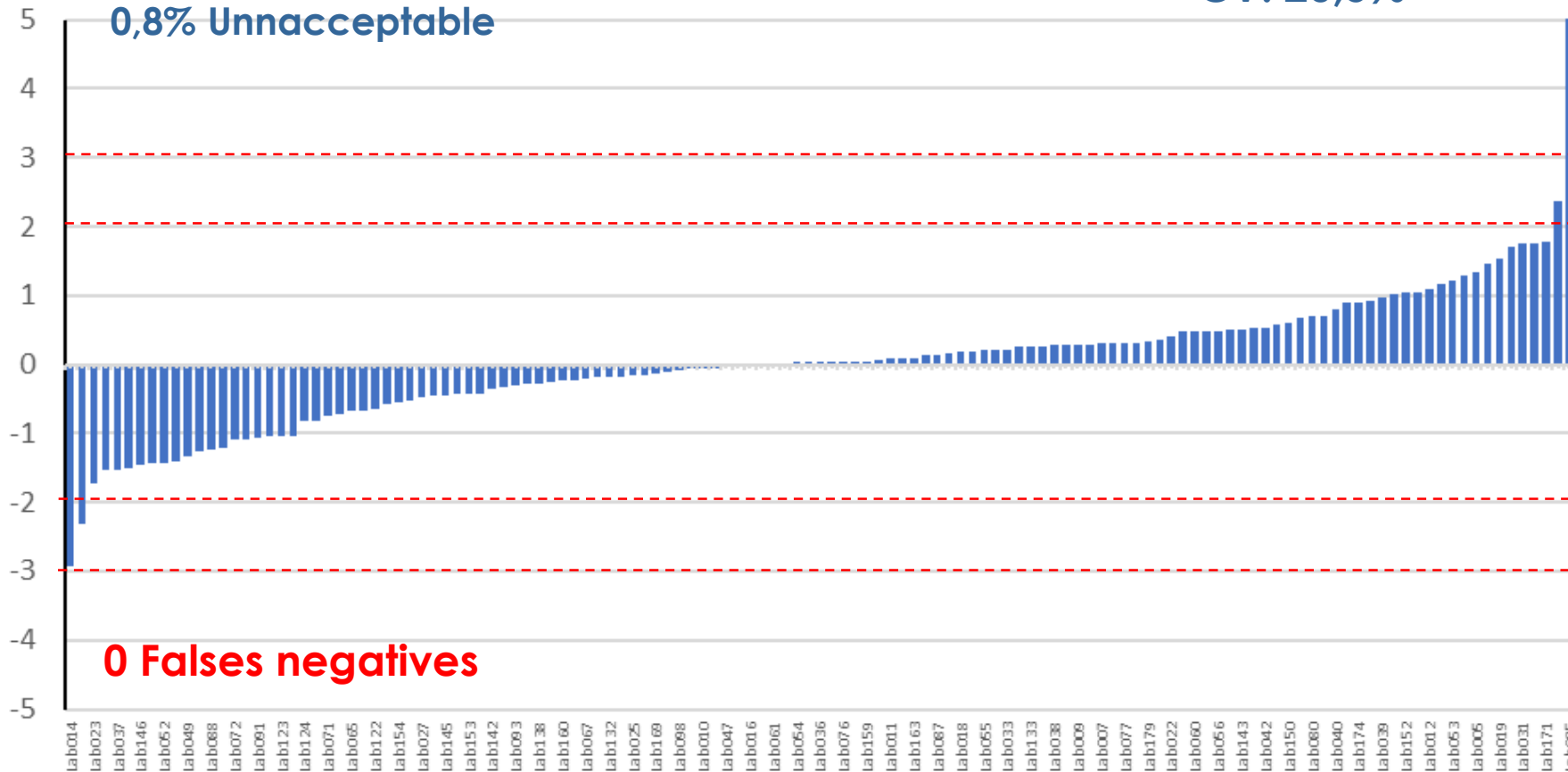




96,9% Acceptable
2,3% Questionable
0,8% Unacceptable

Lufenuron

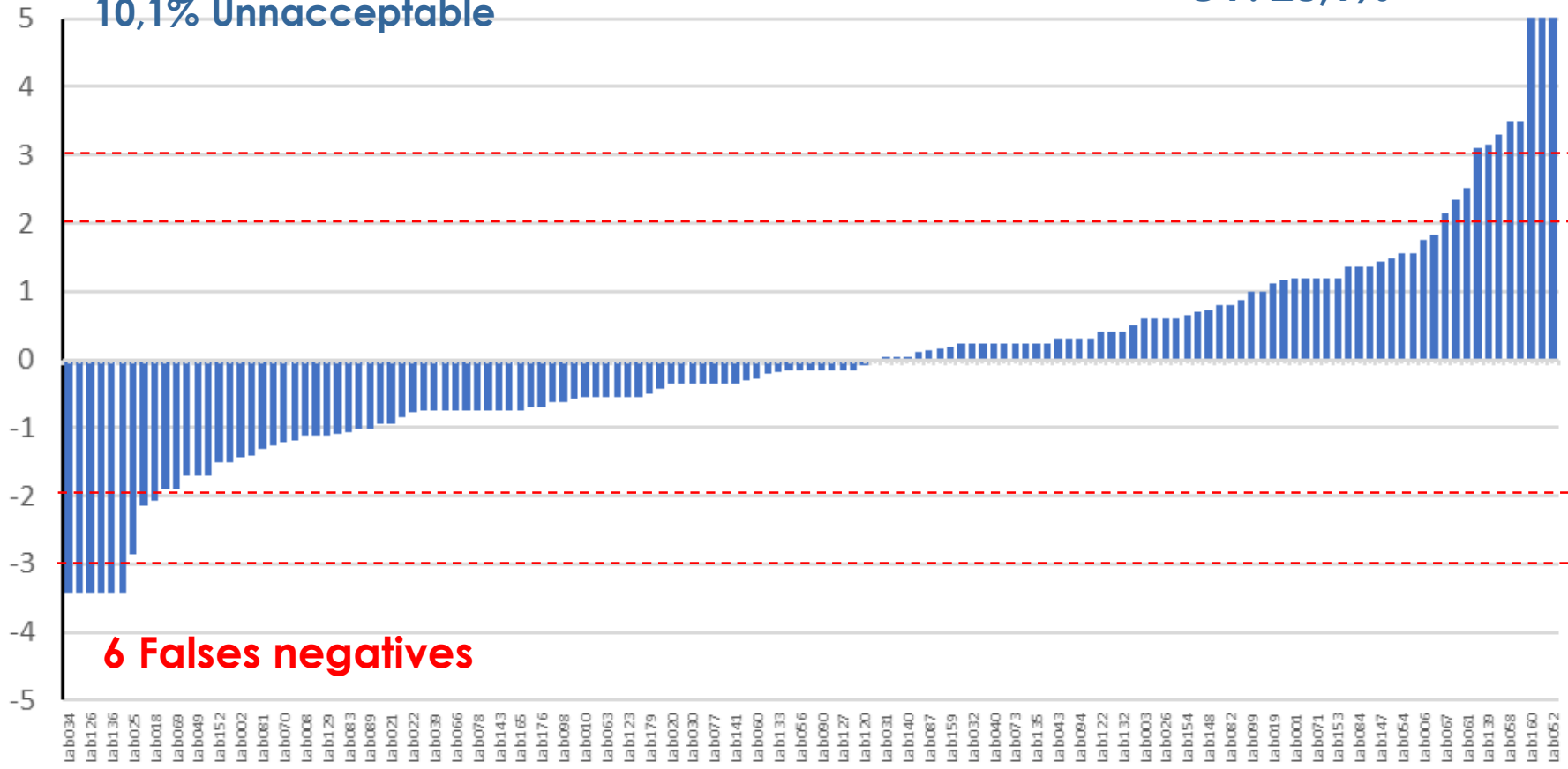
Robust Mean: 0,644 mg/kg
CV: 20,5%



85,6% Acceptable
4,3% Questionable
10,1% Unacceptable

Omethoate

Robust Mean: 0,021 mg/kg
CV: 28,1%

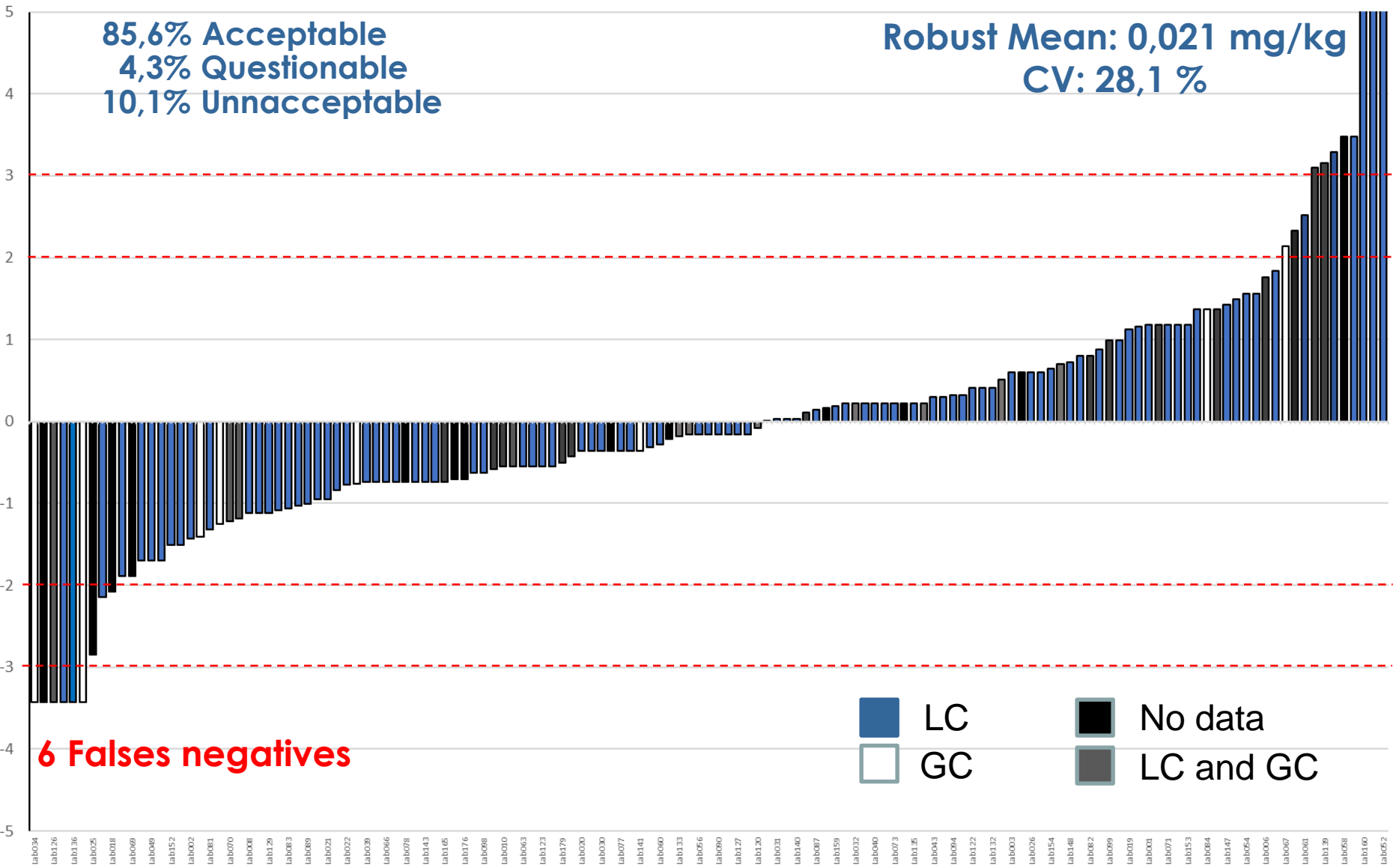


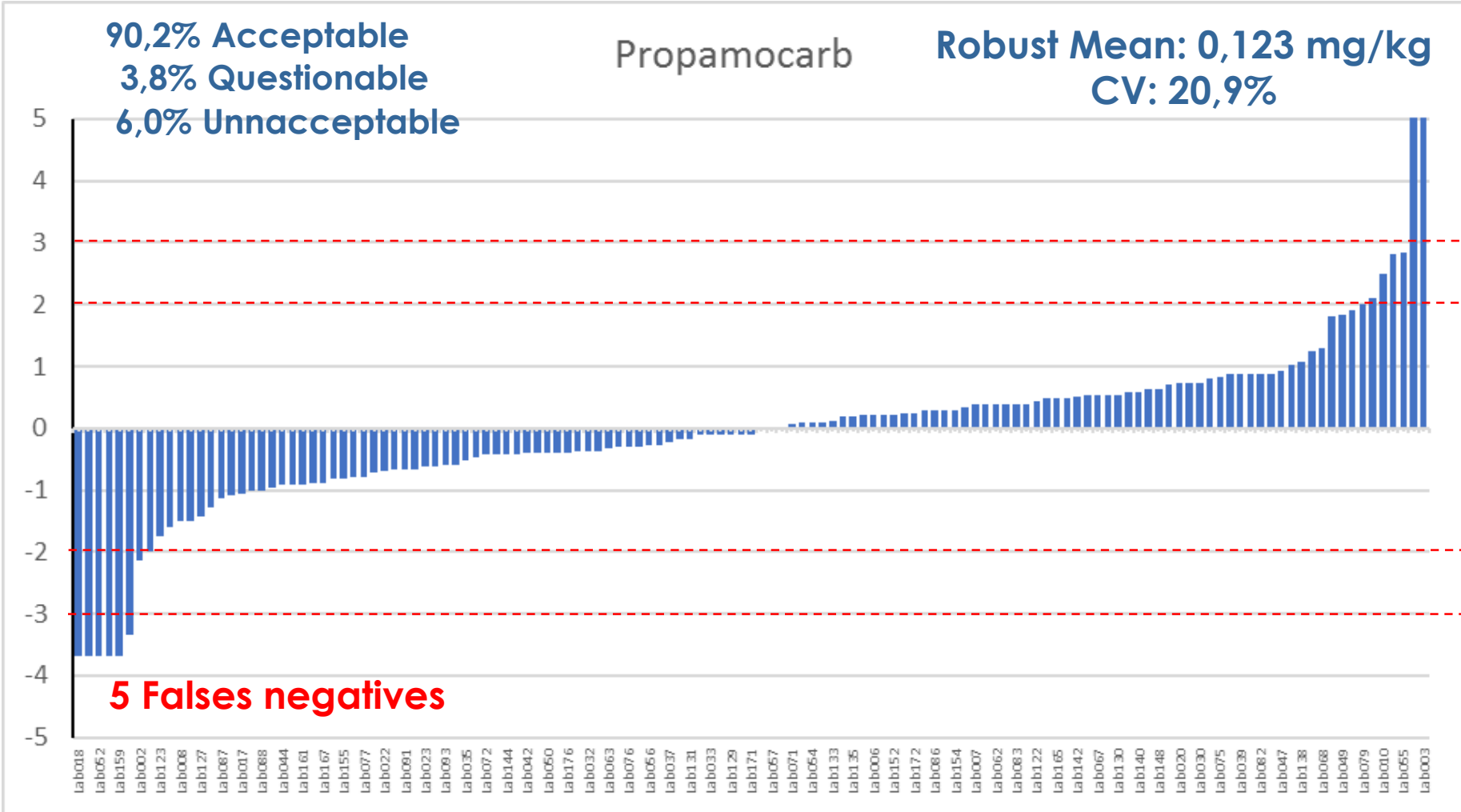
EU/EFTA Laboratories

Omethoate

85,6% Acceptable
4,3% Questionable
10,1% Unacceptable

Robust Mean: 0,021 mg/kg
CV: 28,1 %

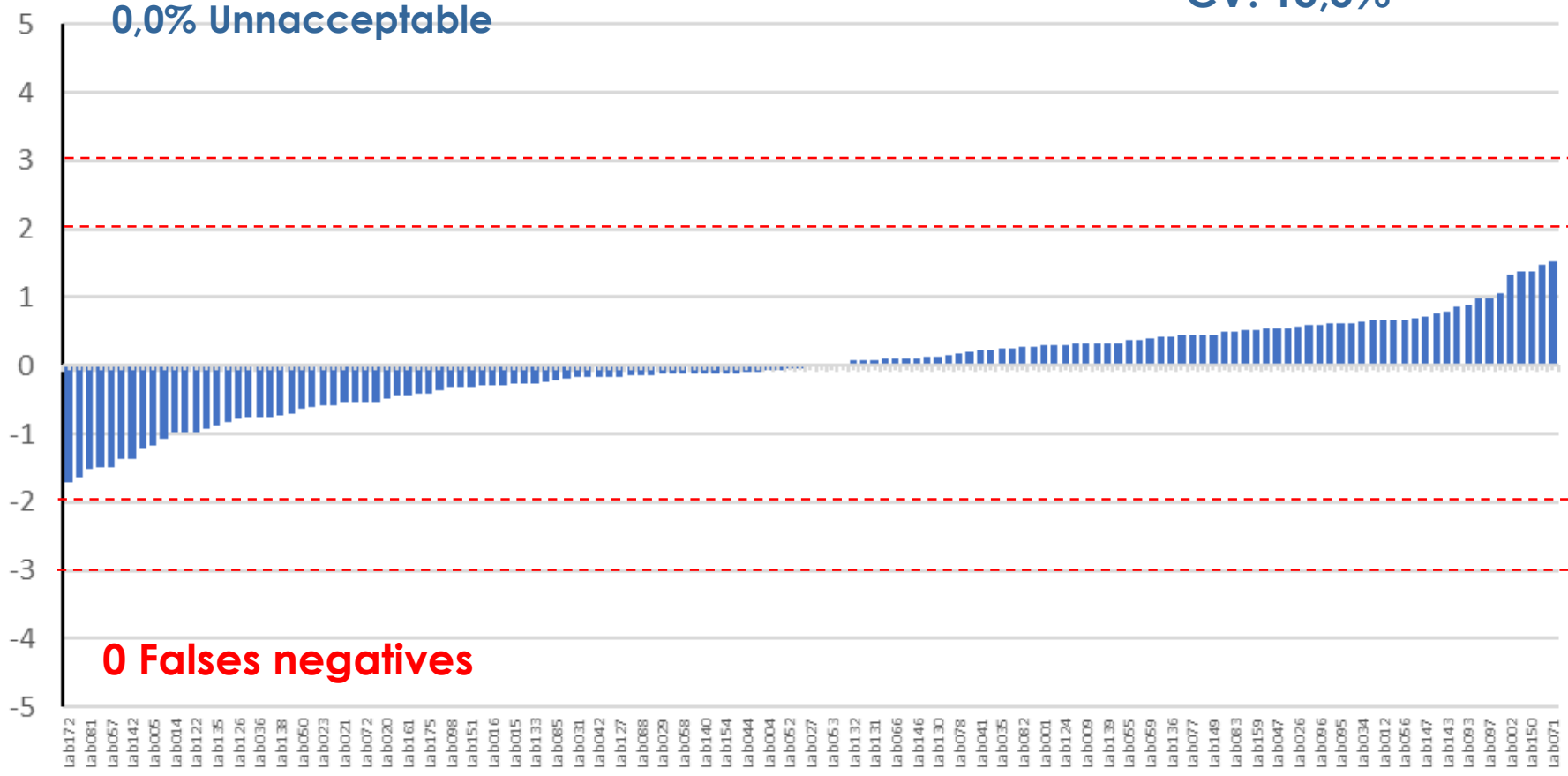




100,0% Acceptable
0,0% Questionable
0,0% Unacceptable

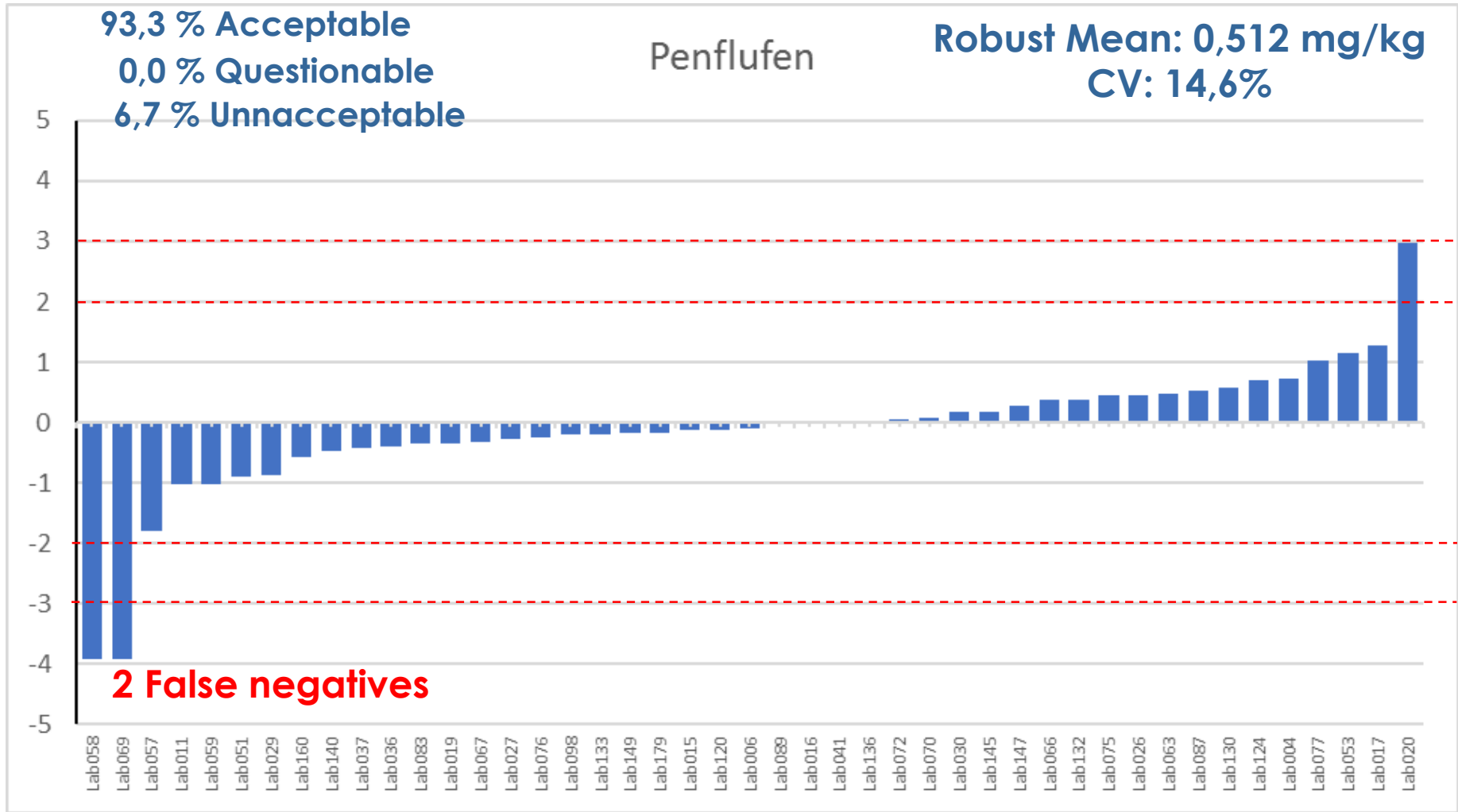
Pyraclostrobin

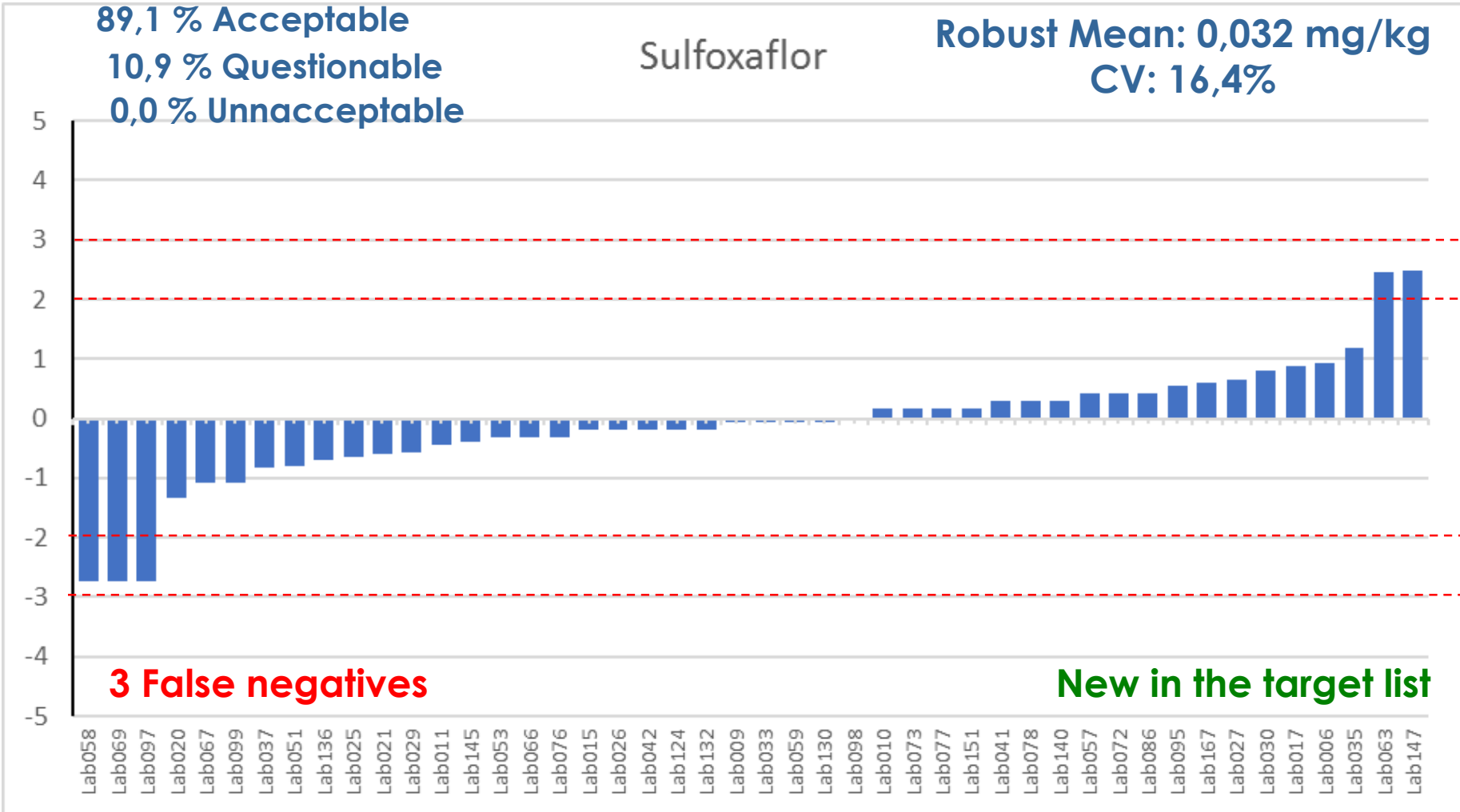
Robust Mean: 0,185 mg/kg
CV: 15,5%





Voluntary Componds





Combined z-Scores

Average of Squared z-Scores

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

$AZ^2 \leq 2.0$	Good
$2.0 < AZ^2 < 3.0$	Satisfactory
$AZ^2 \geq 3.0$	Unsatisfactory

Category A

Laboratories that were able to analyse at least **90% of the compulsory pesticides in the target pesticides list**, that detected and quantified at least **90 % of the pesticides present in the Test Item** and reported **no false positives**.

EU/EFTA Laboratories

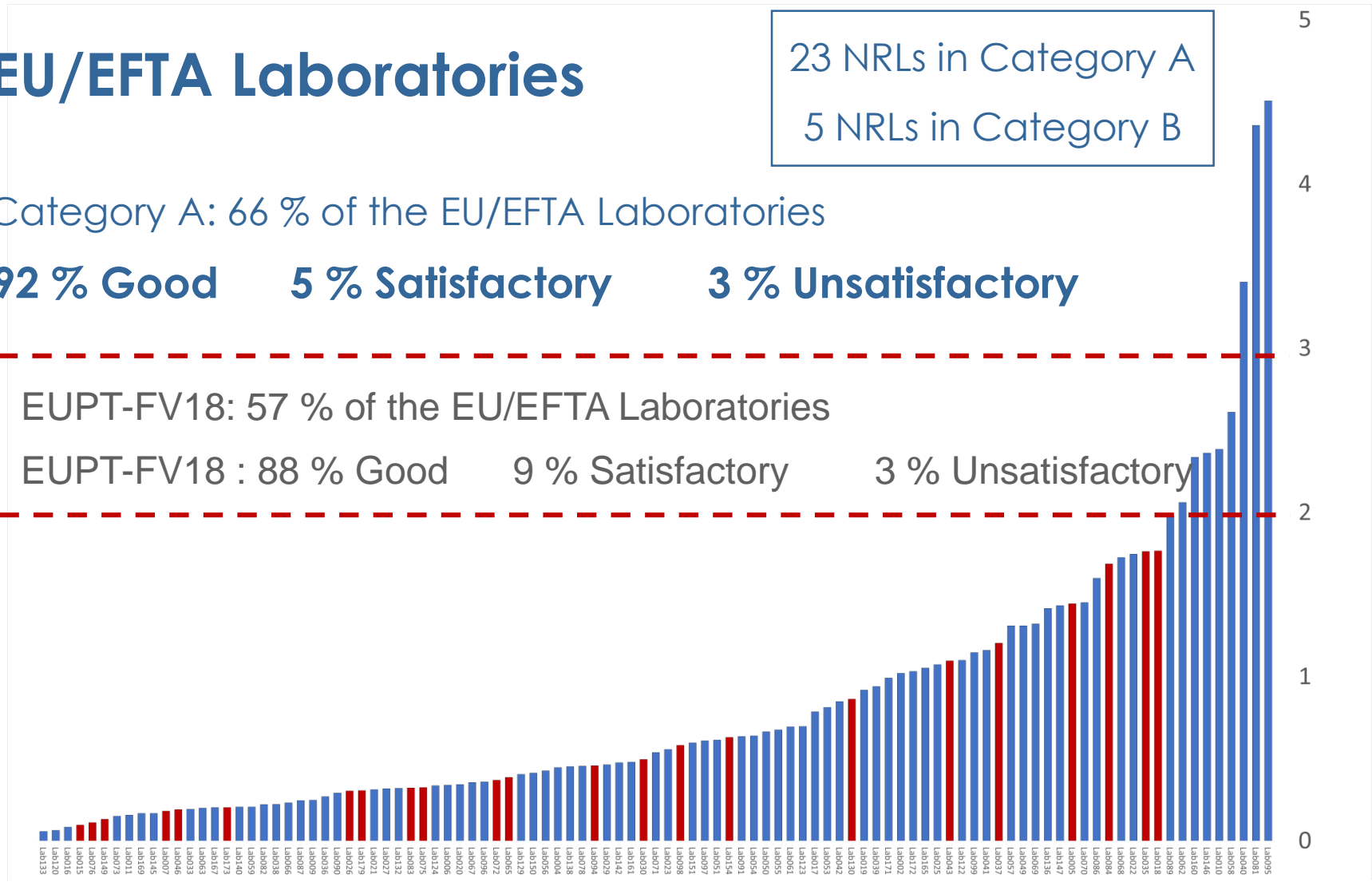
23 NRLs in Category A
5 NRLs in Category B

Category A: 66 % of the EU/EFTA Laboratories

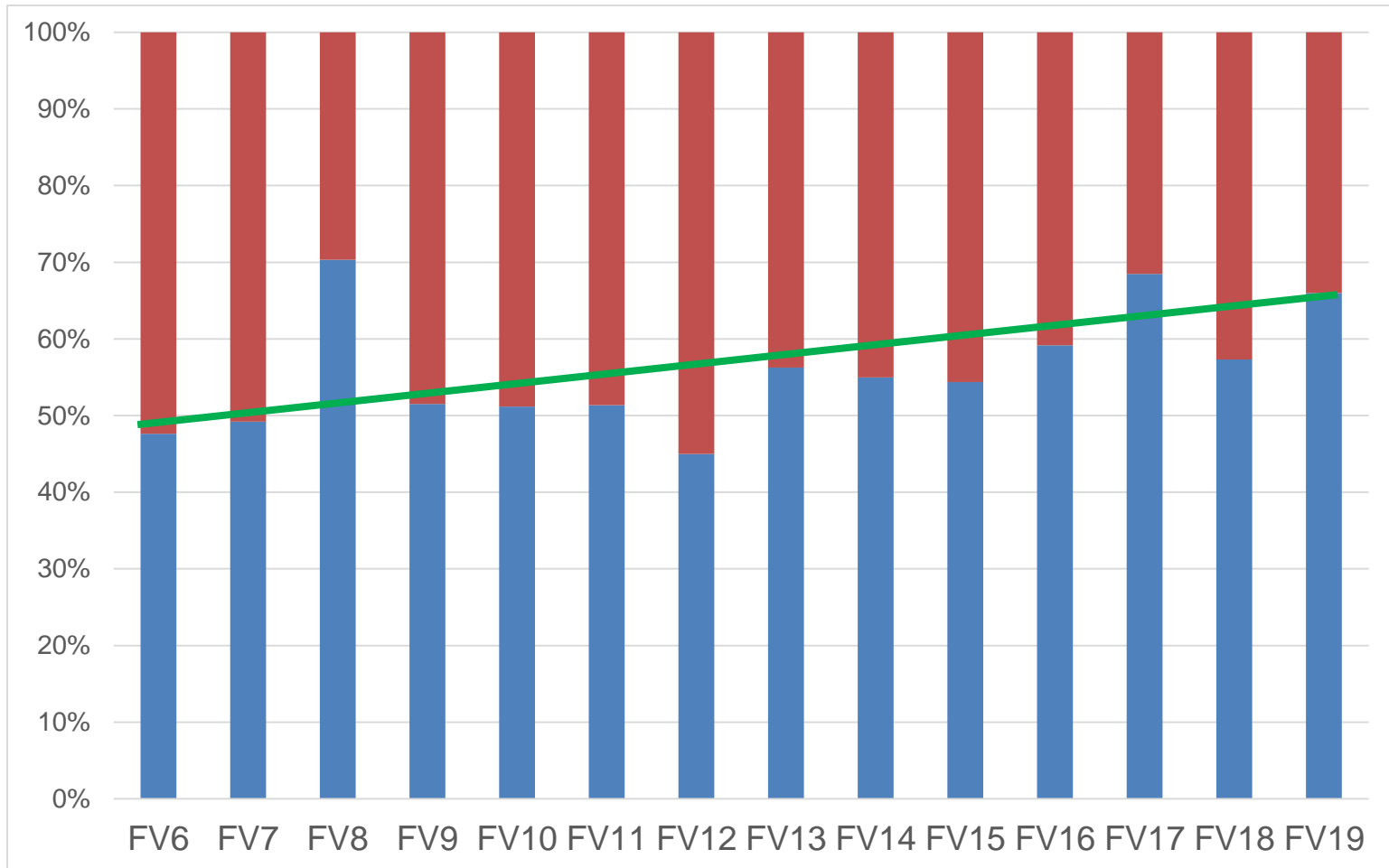
92 % Good 5 % Satisfactory 3 % Unsatisfactory

EUPT-FV18: 57 % of the EU/EFTA Laboratories

EUPT-FV18 : **88 % Good 9 % Satisfactory 3 % Unsatisfactory**



Laboratories in Category A



EU/EFTA Laboratories

False Positives

5 laboratories from EU/EFTA countries reported **5** pesticides as false positives

Laboratory Code	Pesticide	Concentration (mg/kg)	Determination Technique	RL (mg/Kg)	MRRL (mg/Kg)
Lab080	Thiamethoxam	0,019	GC-MS/MS (IT)	0,01	0,01
Lab135	Diflubenzuron	0,241	GC-MS/MS (QQQ)	0,01	0,01
Lab139	Fenpropathrin	0,16	Both GC and LC-MS/MS (QQQ)	0,01	0,01
Lab148	Fenpropimorph	0,0476	GC-MS/MS (QQQ)	0,02	0,01
Lab159	Fenpropathrin	0,117	LC-MS/MS (QQQ)	0,01	0,01

EU/EFTA Laboratories

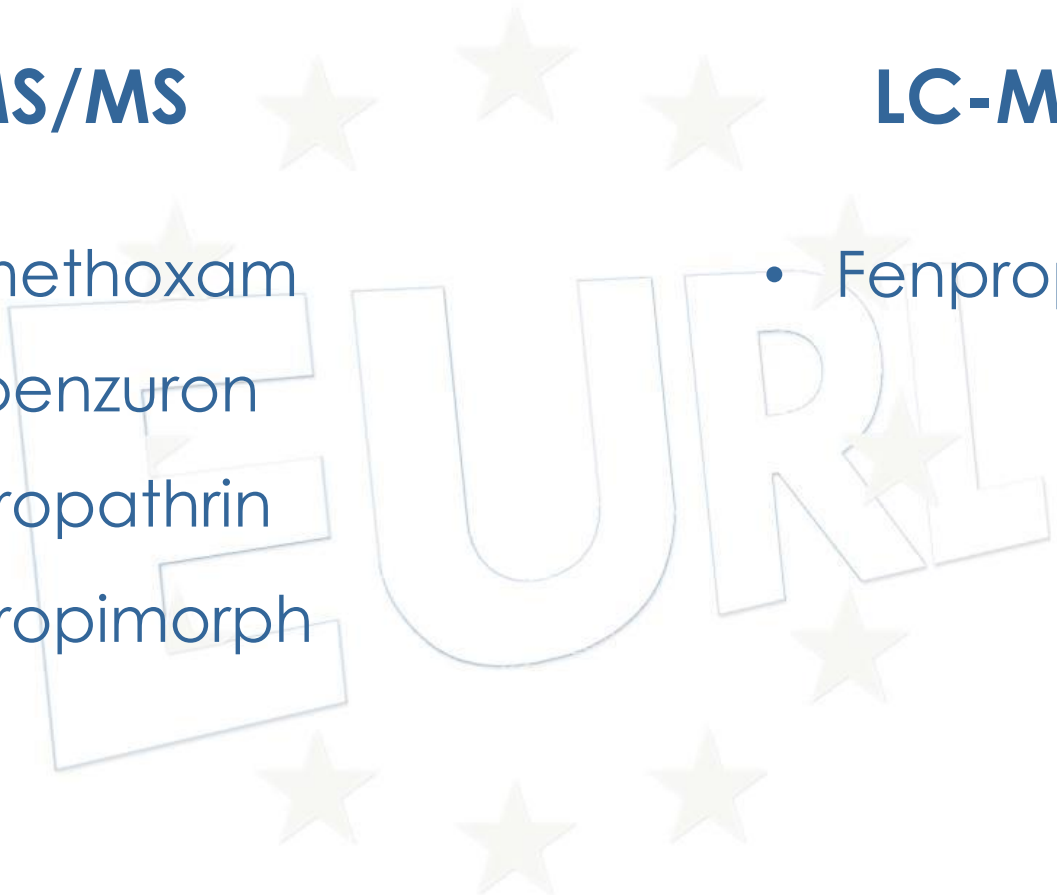
False Positives

GC-MS/MS

- Thiamethoxam
- Diflubenzuron
- Fenpropathrin
- Fenpropimorph

LC-MS/MS

- Fenpropathrin



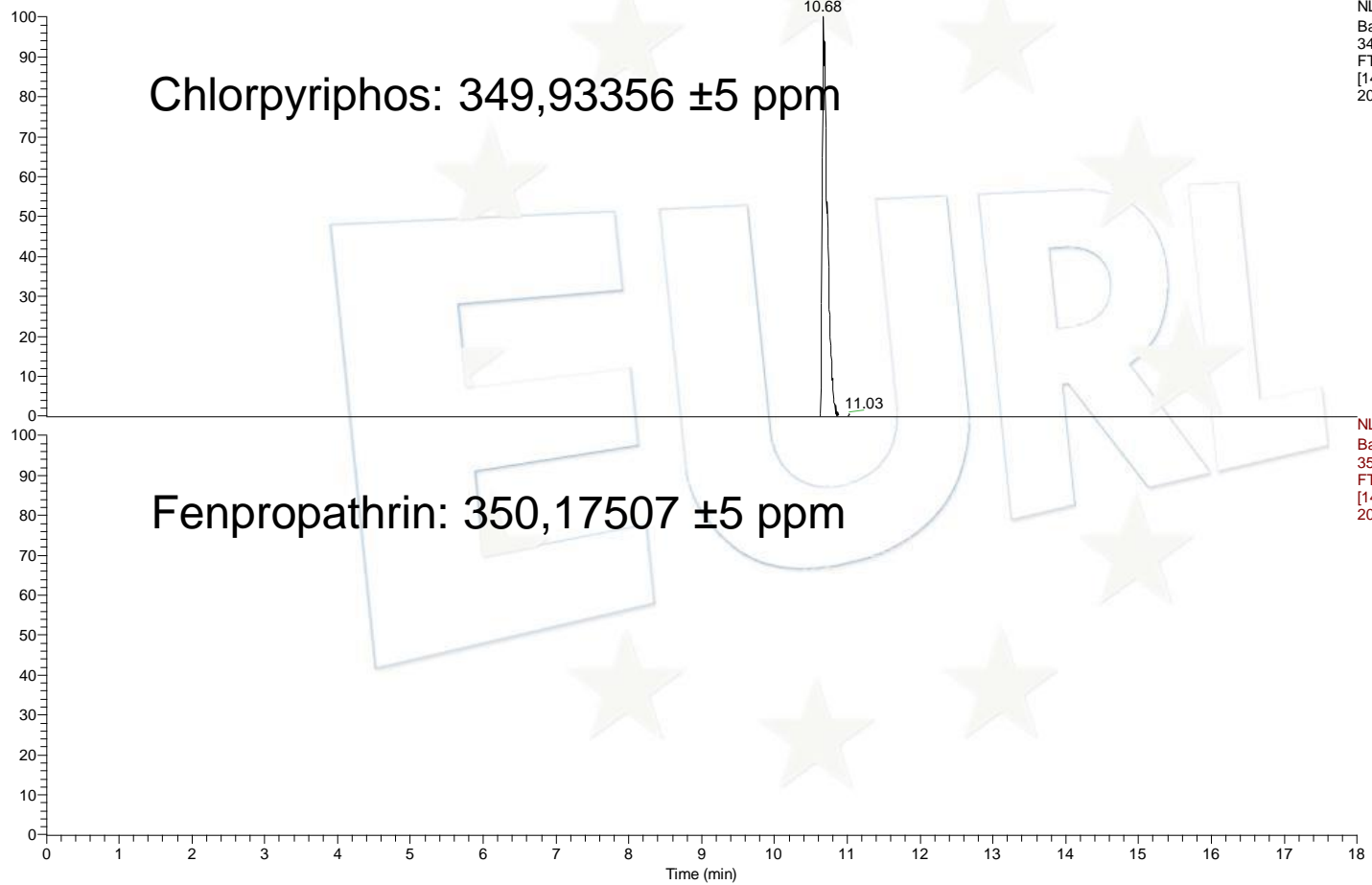
EU/EFTA Laboratories

False Positives

Laboratory Code	Pesticide	Concentration (mg/kg)	Determination Technique	RL (mg/Kg)	MRRL (mg/Kg)
Lab080	Thiamethoxam	0,019	GC-MS/MS (IT)	0,01	0,01
Lab135	Diflubenzuron	0,241	GC-MS/MS (QQQ)	0,01	0,01
Lab139	Fenpropathrin	0,16	Both GC and LC-MS/MS (QQQ)	0,01	0,01
Lab148	Fenpropimorph	0,0476	GC-MS/MS (QQQ)	0,02	0,01
Lab159	Fenpropathrin	0,117	LC-MS/MS (QQQ)	0,01	0,01

EUPT-FV19 sample LC-QOrbitrap

RT: 0.00 - 18.00



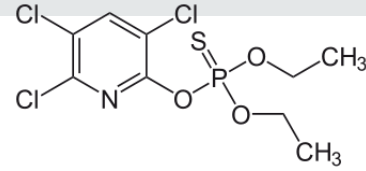
Chlorpyrifos: 349,93356 ±5 ppm

Fenpropathrin: 350,17507 ±5 ppm

NL: 2.79E6
Base Peak m/z=
349.9319-349.9353 F:
FTMS + p ESI Full ms
[140.00-750.00] MS
20_manzanafuji

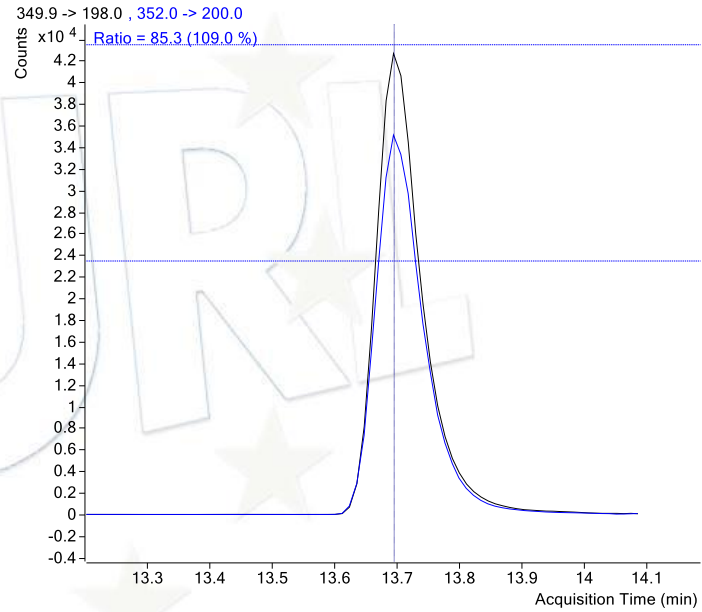
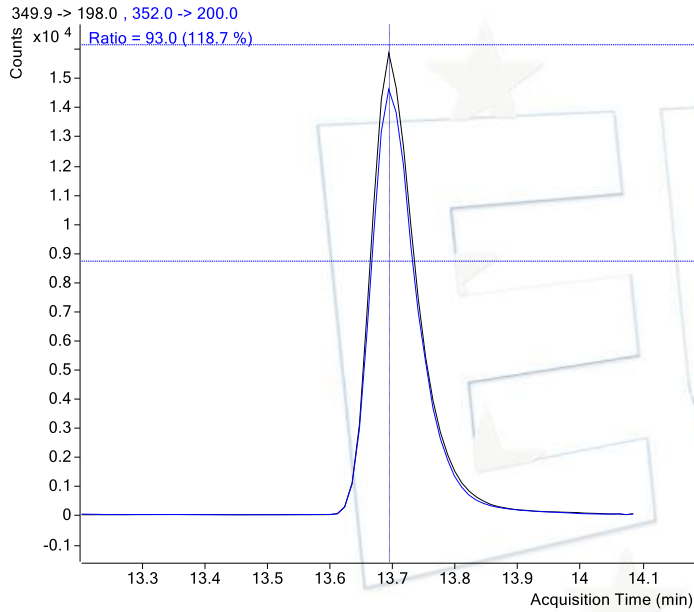
NL: 0
Base Peak m/z=
350.1732-350.1768 F:
FTMS + p ESI Full ms
[140.00-750.00] MS
20_manzanafuji

Chlorpyrifos



0.05 mg/l in lemon

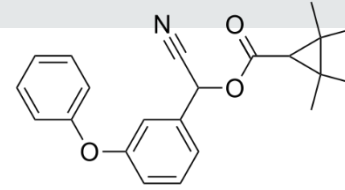
Sample 253 FV19



SRM1: 349,9 / 198
SRM2: 352 / 200

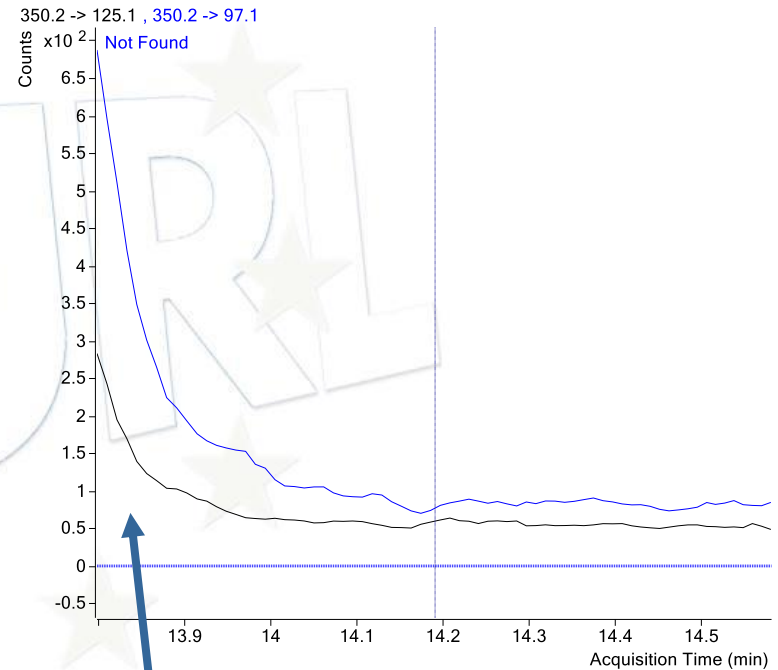
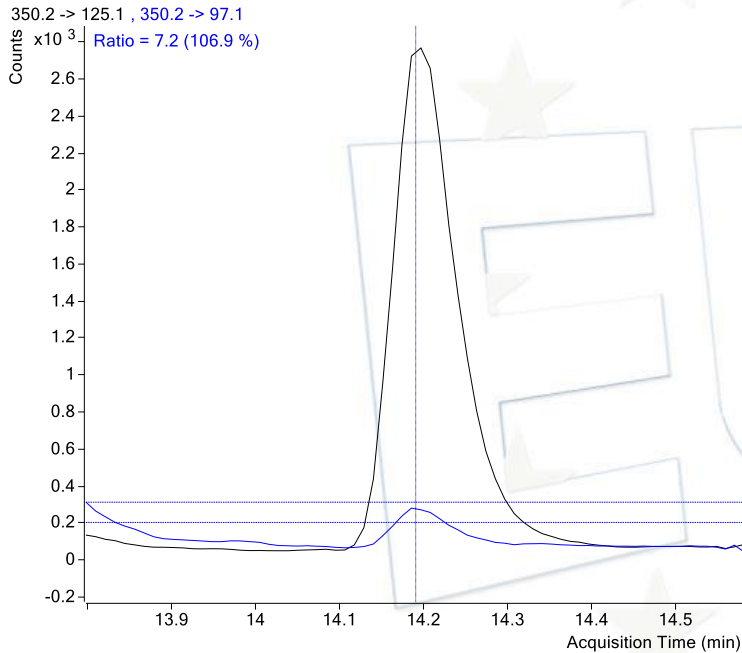
Conc: 0,144 mg/kg

Fenpropathrin



0.05 mg/kg in lemon

Sample 253 FV19



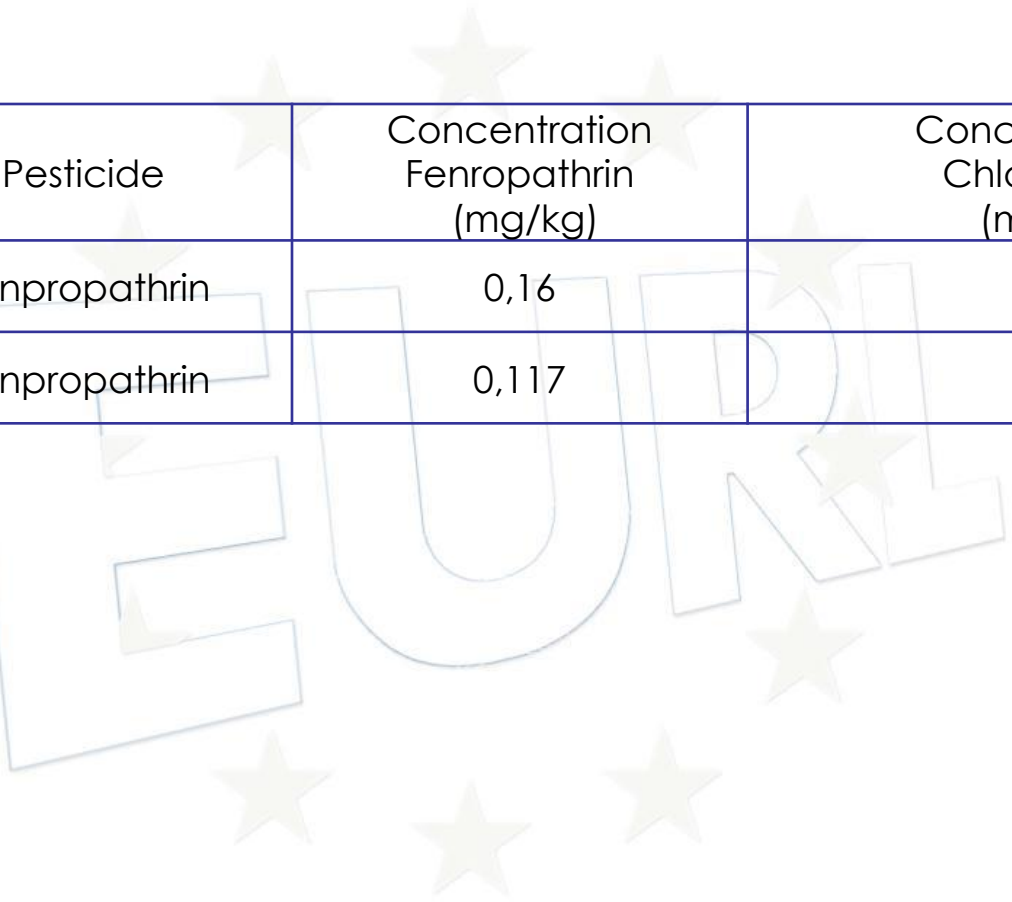
SRM1: 350,2 / 125
SRM2: 350,2 / 97

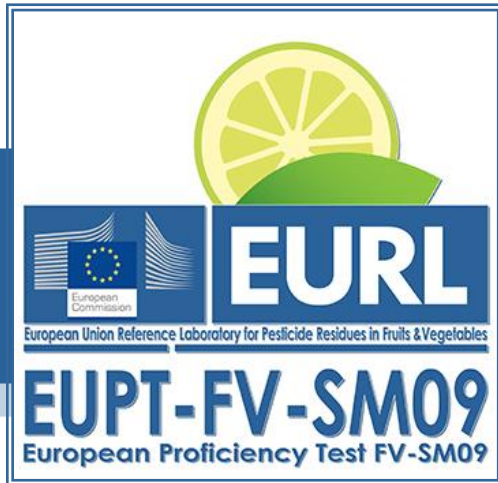
Chlorpyrifos

EU/EFTA Laboratories

False Positives

Laboratory Code	Pesticide	Concentration Fenpropathrin (mg/kg)	Concentration Chlorpyrifos (mg/kg)
Lab139	Fenpropathrin	0,16	0,16
Lab159	Fenpropathrin	0,117	0,12





EUROPEAN COMMISSION PROFICIENCY TEST FOR PESTICIDE RESIDUES IN FRUITS AND VEGETABLES

SCREENING METHODS 09

RESULTS



ACTIVITY	DATE
Publishing the Calendar and Matrix on the Web page.	December 2016
Receiving Application Form from invited laboratories.	2 nd - 27 th January 2017
Specific Protocol published on the Web site.	25 th January 2017 at the latest
Sample distribution.	13 th February 2017
Deadline for receiving results: Fill in “Results Page”	72 hours after receiving the sample
Preliminary Report: only results, no statistical treatment.	Last week of March 2017
Final Report distributed to the Laboratories.	December 2017

Participation

75 Participants

EUPT-FV-SM09- Participants

COUNTRY	No.	COUNTRY	No.
Austria	1	Kenia	1
Belgium	3	Latvia	1
Bulgary	1	Norway	1
China	4	Poland	1
Costa Rica	1	Serbia	1
Cyprus	1	Slovenia	1
Czech Republic	2	Spain	11
Denmark	1	Sweden	2
Finland	1	Switzerland	1
France	5	The Netherlands	4
Germany	14	Turkey	1
Hungary	4	UK	3
Ireland	1	Zambia	1
Italy	7		



Austria
Belgium
Bulgary
Cyprus
Czech Republic
Denmark
Finland
France
Germany
Greece
Hungary
Ireland
Italy
Latvia
Netherlands
Norway
Poland
Slovenia
Spain
Sweden
Switzerland
United Kingdom

**22 EU/EFTA
Countries**

China
Costa Rica
Kenya
Serbia
Turkey
Zambia

**6 Non EU/EFTA
Countries**

Pesticides used for the treatment

Bromuconazole

Novaluron

Cyflufenamid

Orthosulfamuron

Dieldrin

Penthiopyrad

Fenpyrazamine

Pyridalil

Fipronil

Spinetoram

Flubendiamide

Tricyclazole

Isopyrazam

Valifenalate

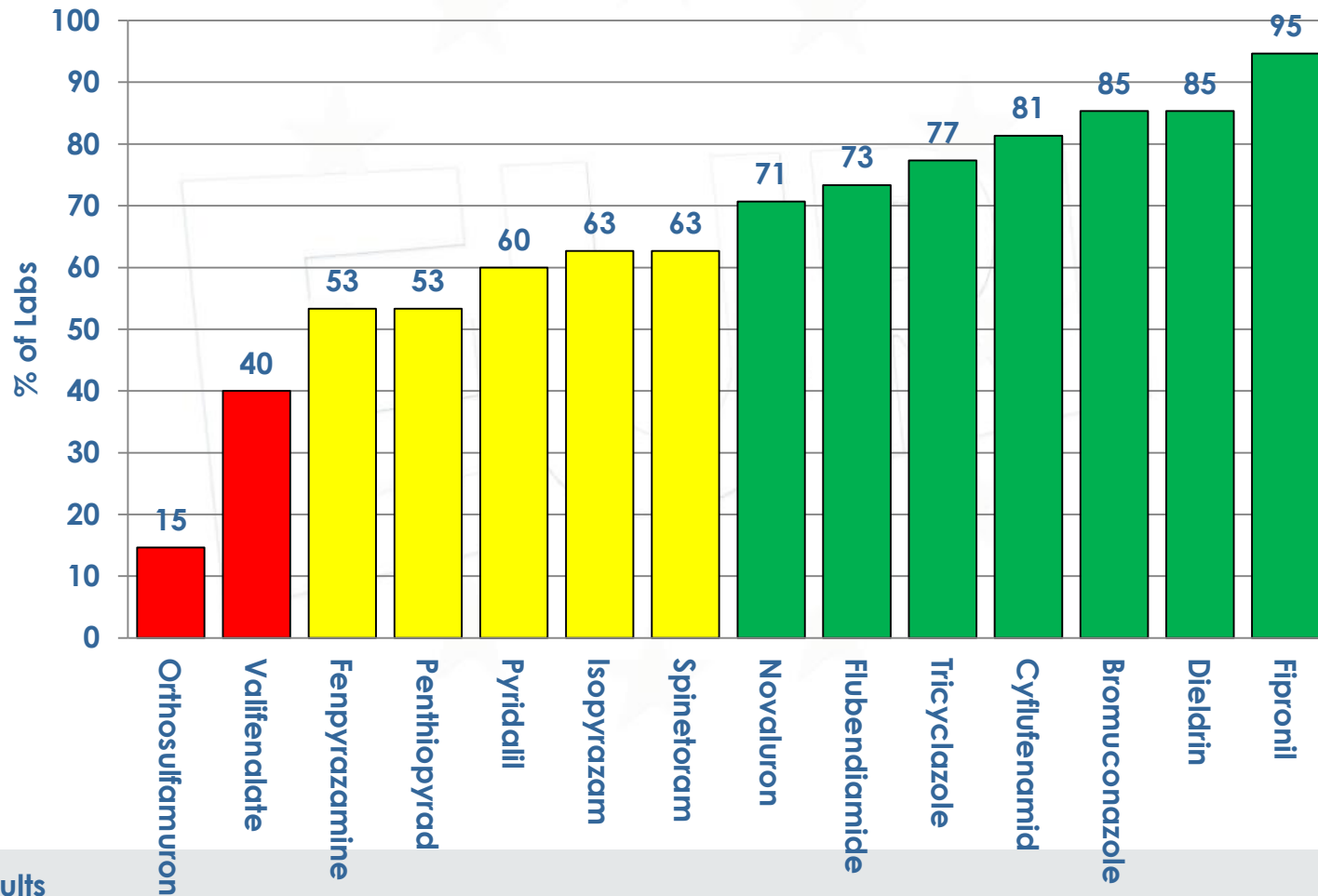


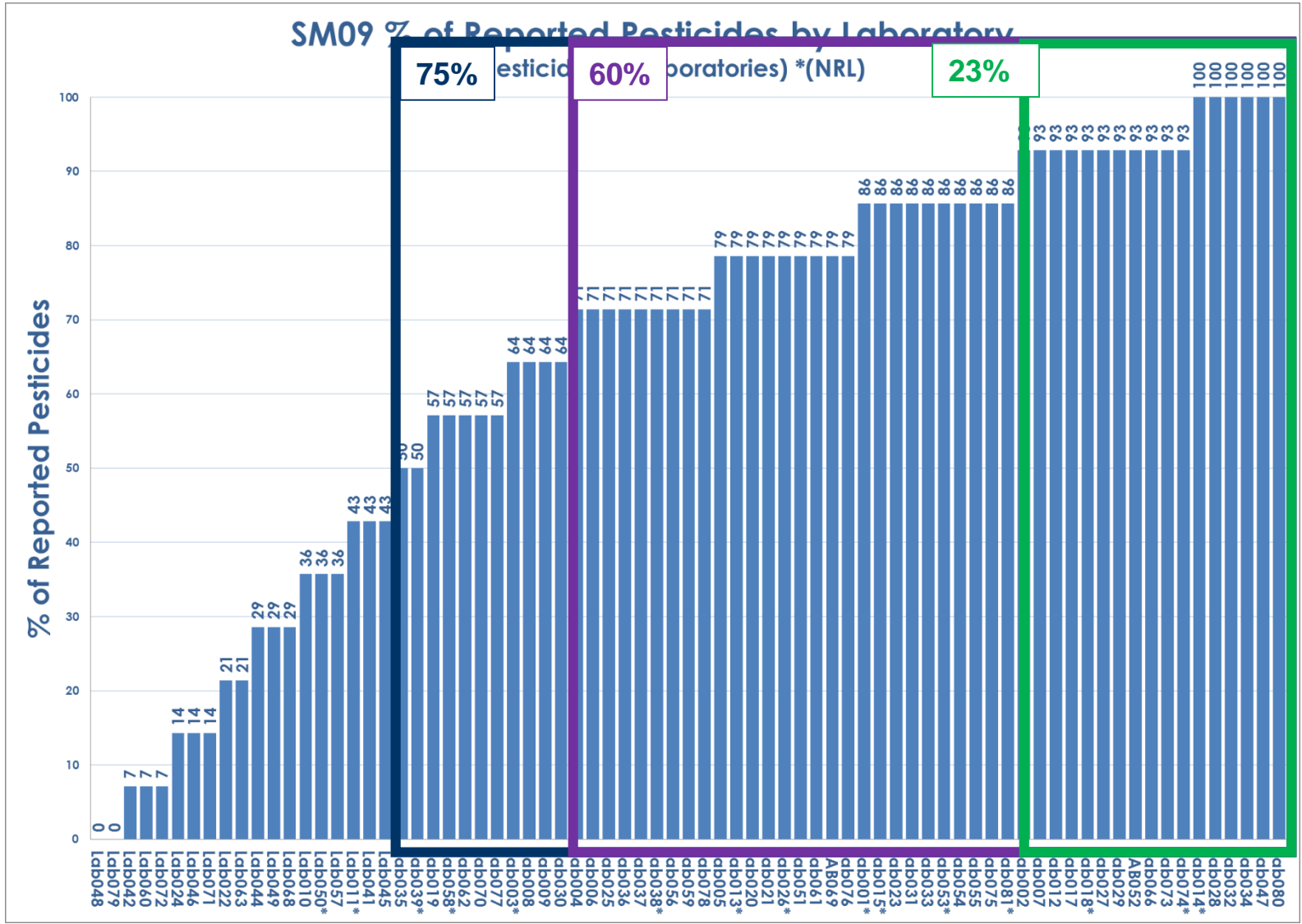
RESULTS

Results

14 Pesticides = 2+4+8

SM09 % of Reported Pesticides
(75 Laboratories Reported Data)

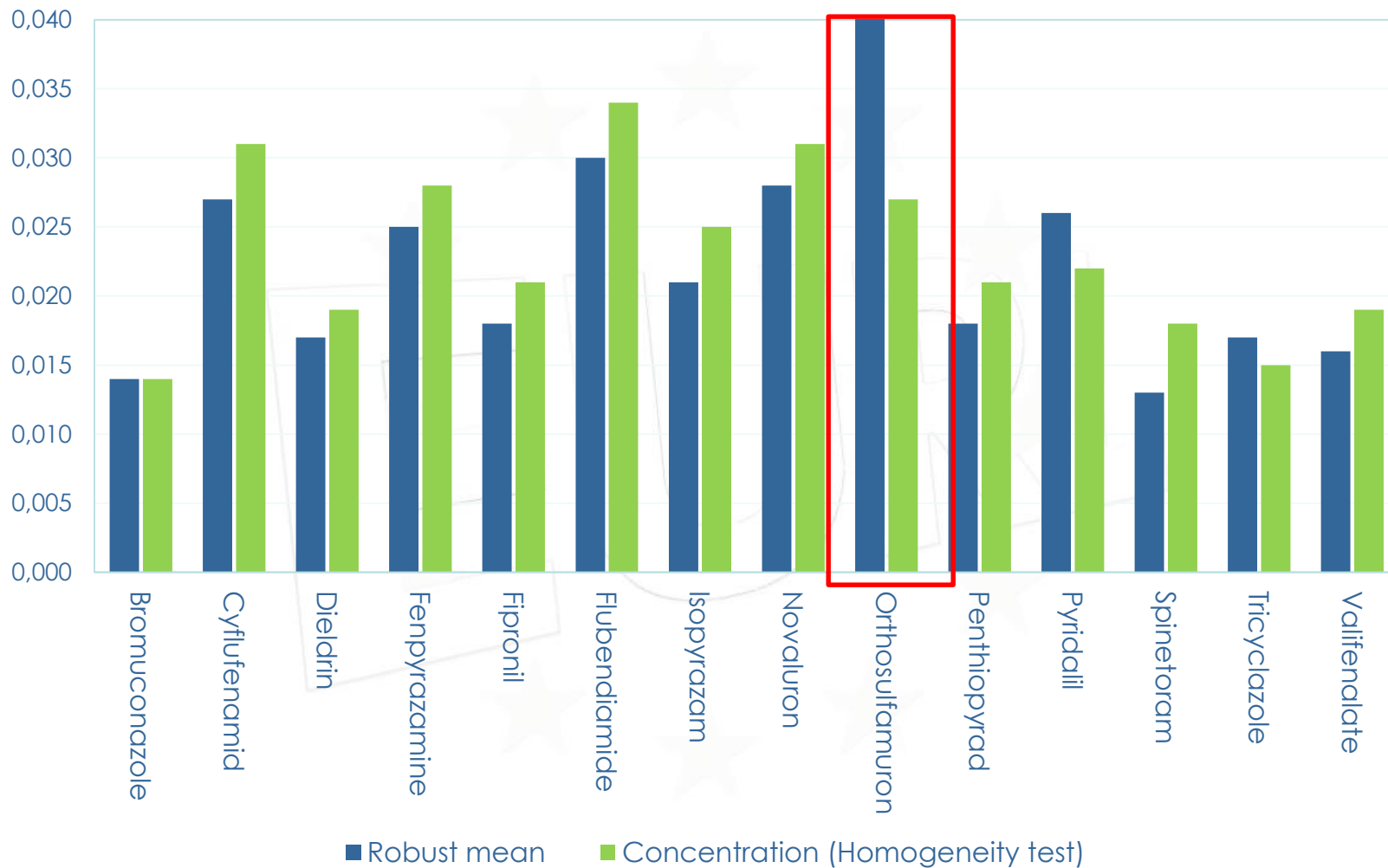




Concentrations

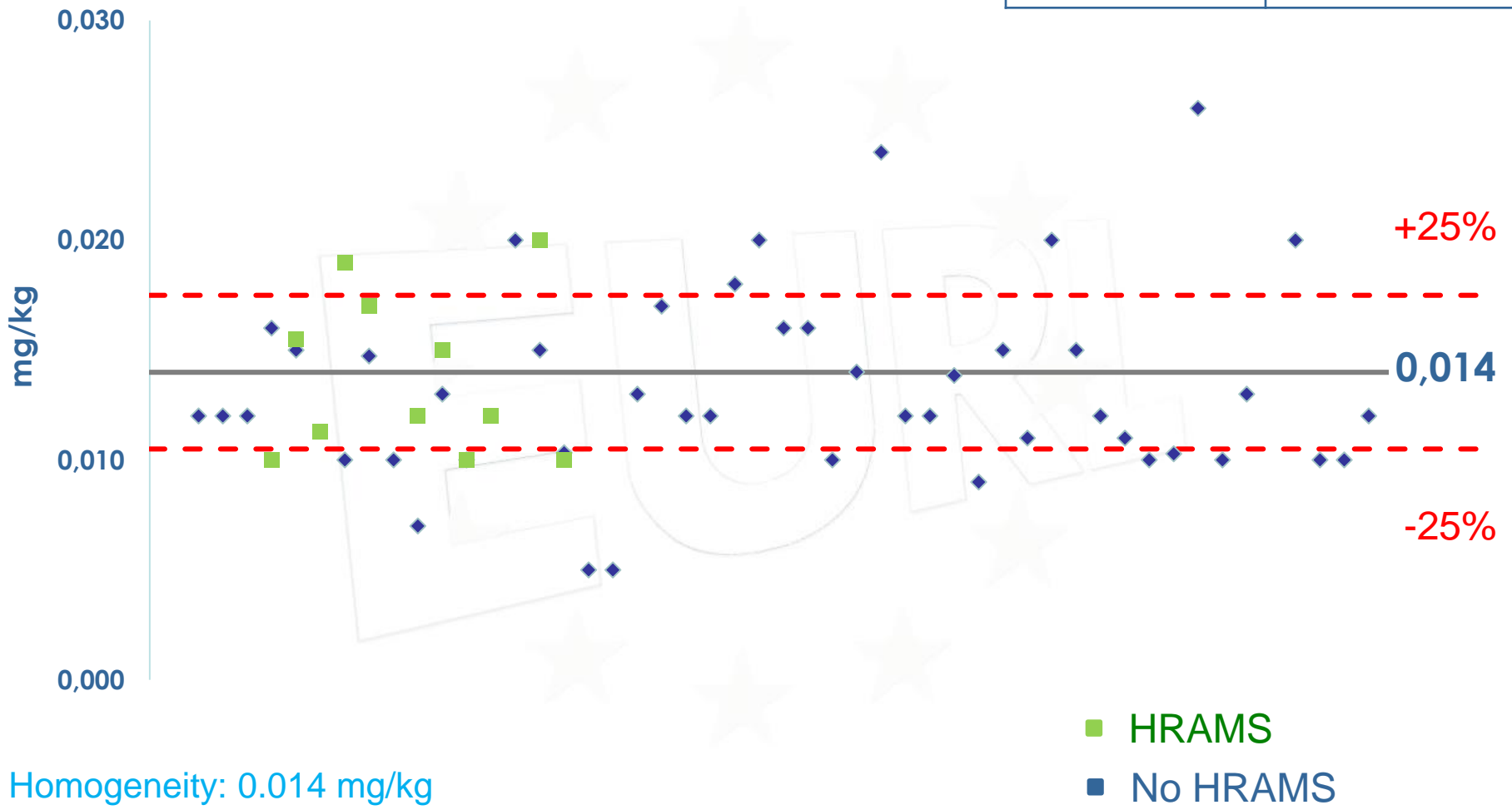
Pesticides	Robust mean (mg/kg)	Conc. Homogeneity test (mg/kg)	CV (%)	No of detections (% of Laboratories)	No of concentration results reported
Bromuconazole	0.014	0.014	30.7	64 (85%)	57
Cyflufenamid	0.027	0.031	18.7	61 (81%)	49
Dieldrin	0.017	0.019	27.4	64 (85%)	57
Fenpyrazamine	0.025	0.028	19.7	40 (53%)	30
Fipronil	0.018	0.021	35.5	71 (95%)	64
Flubendiamide	0.030	0.034	24.9	55 (73%)	47
Isopyrazam	0.021	0.025	16.2	47 (63%)	38
Novaluron	0.028	0.031	39.4	53 (71%)	44
Orthosulfamuron		0.027	132.6	11 (15%)	5
Penthiopyrad	0.018	0.021	17.1	40 (53%)	32
Pyridalil	0.026	0.022	27.2	45 (60%)	37
Spinetoram	0.013	0.018	29.8	47 (63%)	36
Tricyclazole	0.017	0.015	23.8	58 (77%)	52
Valifenalate	0.016	0.019	37.7	30 (40%)	23

CONCENTRATIONS



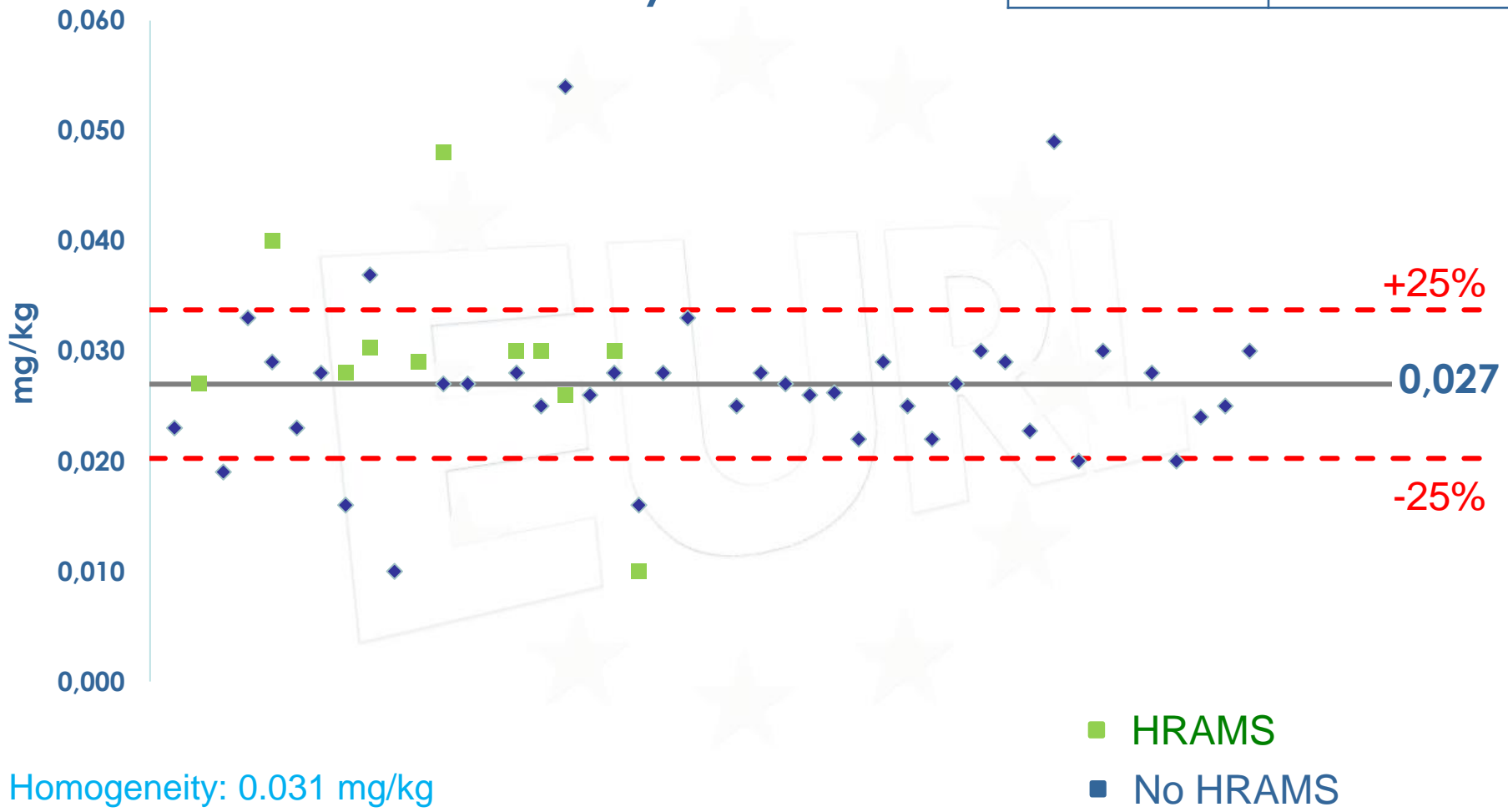
No of Detections (% of Laboratories)	No of Concentration Reported
64 (85%)	57

Bromuconazole



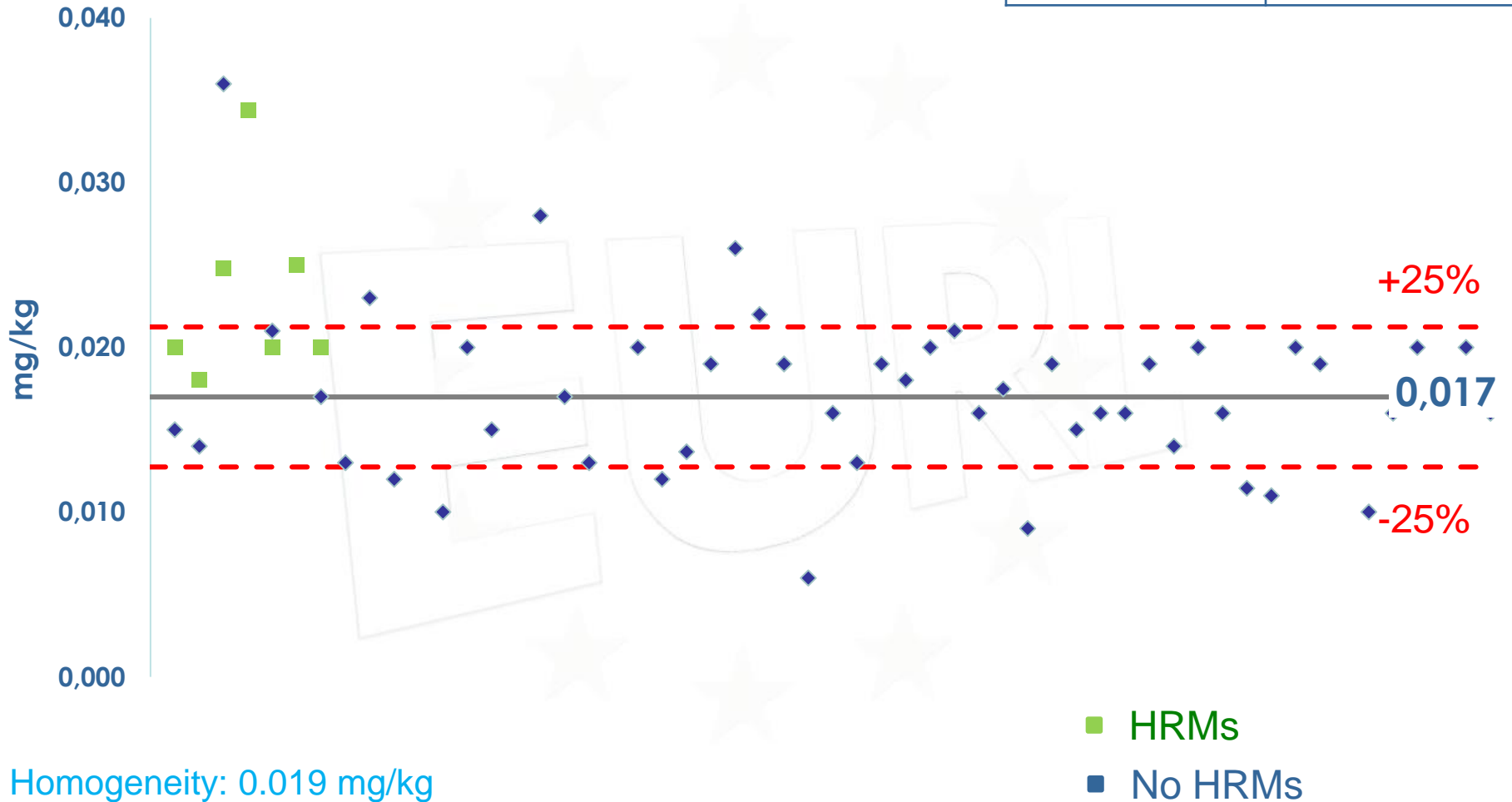
No of Detections (% of Laboratories)	No of Concentration Reported
61 (81%)	49

Cyflufenamid



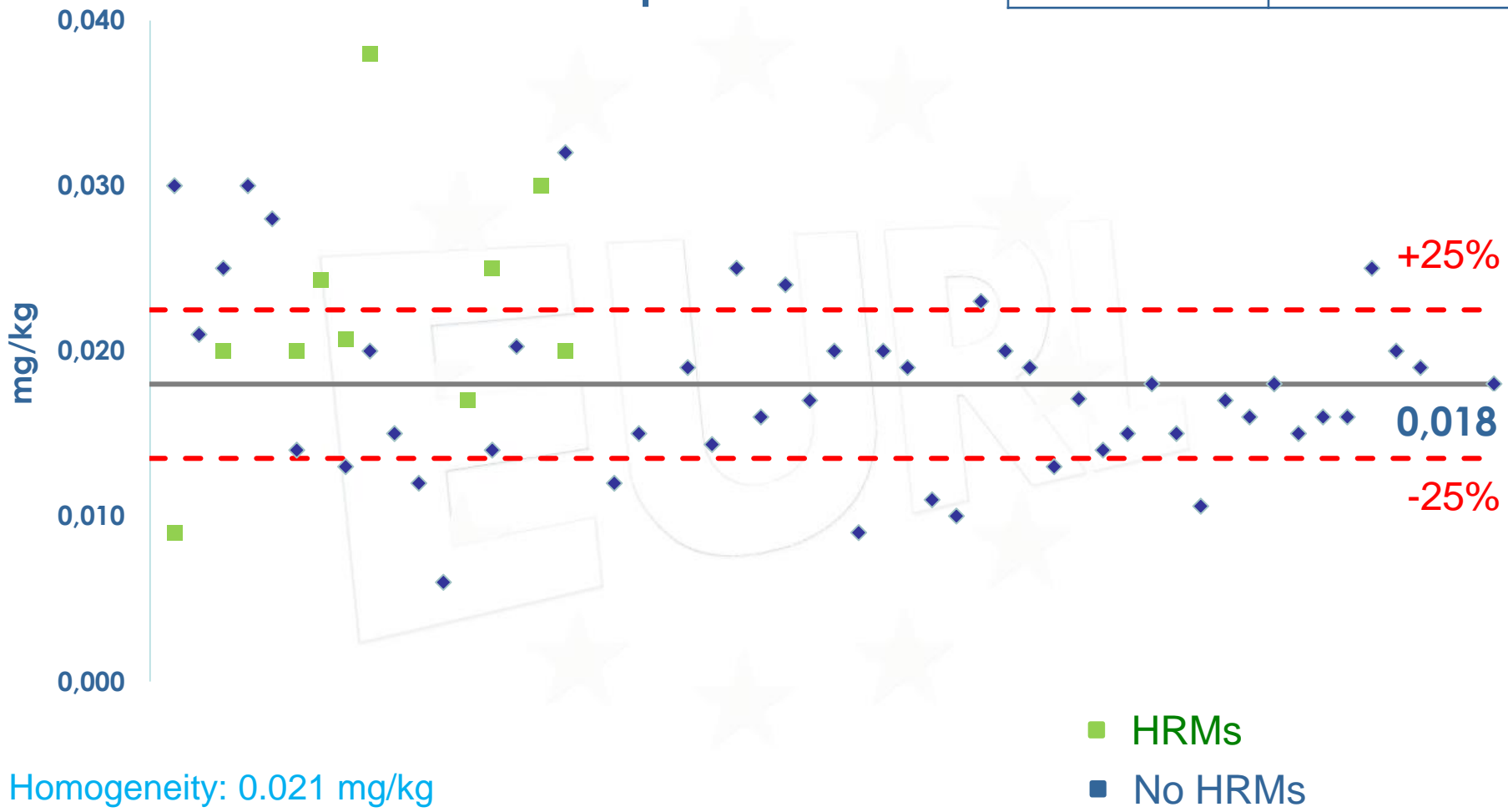
No of Detections (% of Laboratories)	No of Concentration Reported
64 (85%)	57

Dieldrin



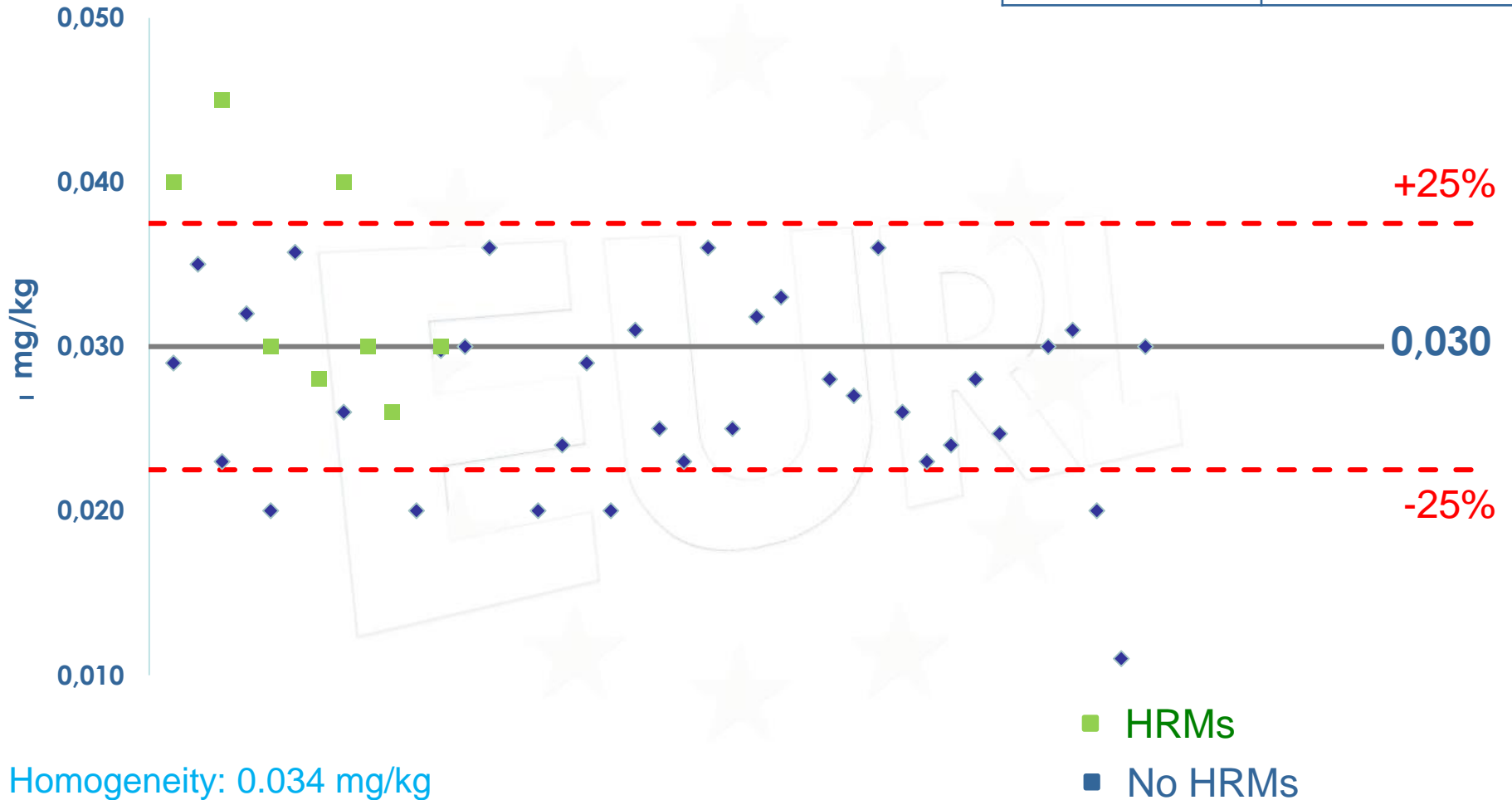
No of Detections (% of Laboratories)	No of Concentration Reported
71 (95%)	64

Fipronil



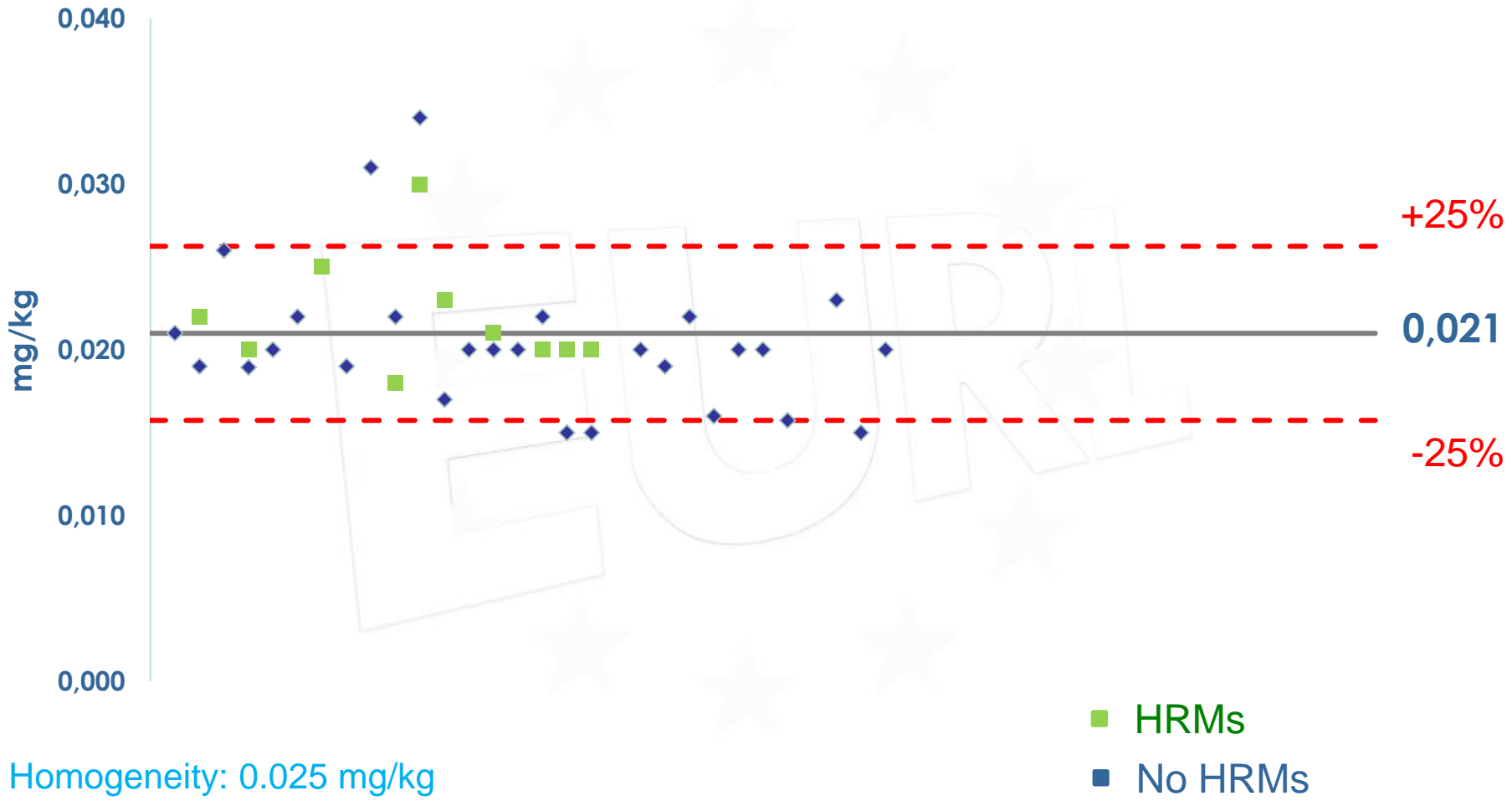
No of Detections (% of Laboratories)	No of Concentration Reported
55 (73%)	47

Flubendiamide



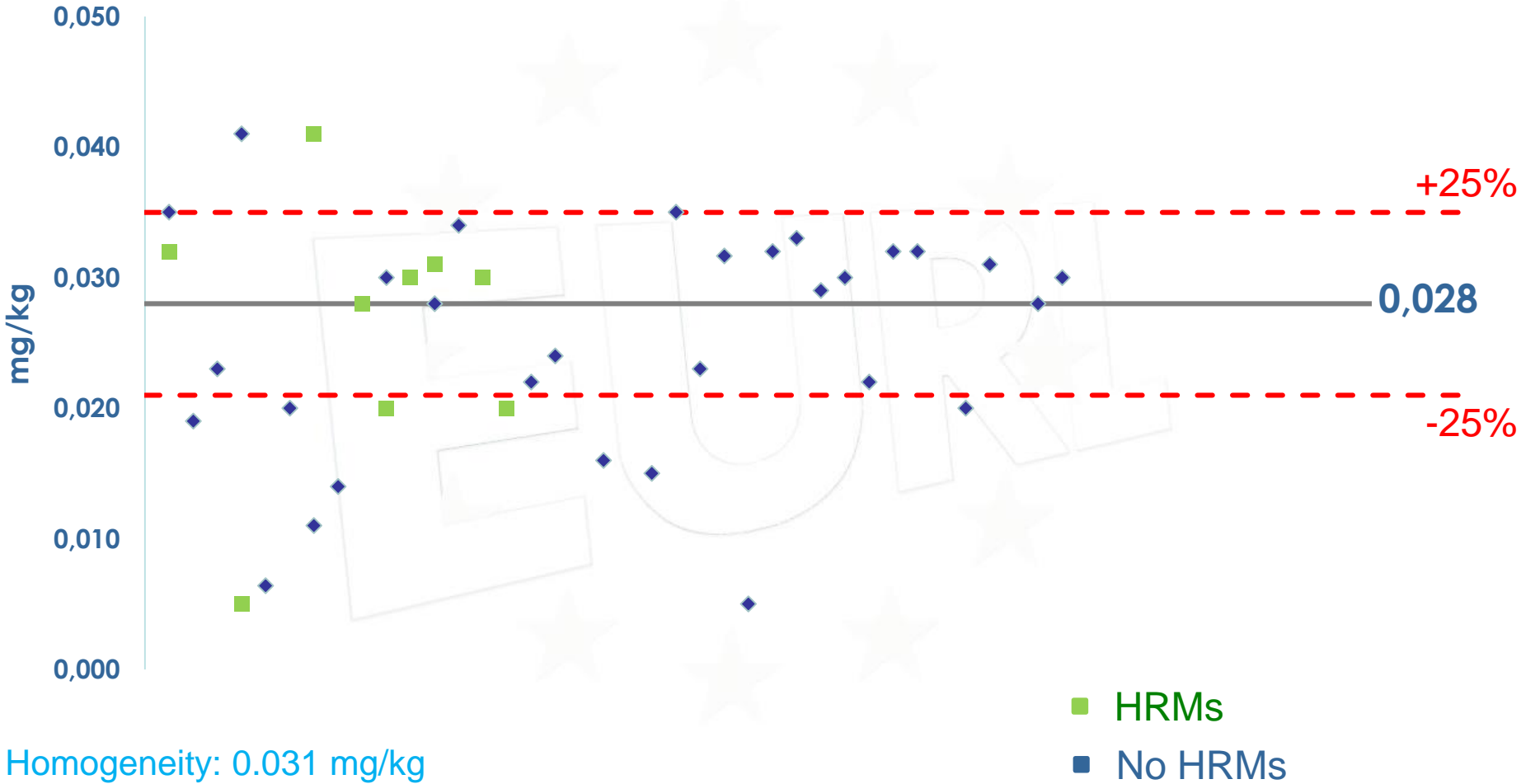
No of Detections (% of Laboratories)	No of Concentration Reported
47 (63%)	38

Isopyrazam



No of Detections (% of Laboratories)	No of Concentration Reported
53 (71%)	44

Novaluron



No of Detections (% of Laboratories)	No of Concentration Reported
11 (15%)	5

Orthosulfamuron

mg/kg

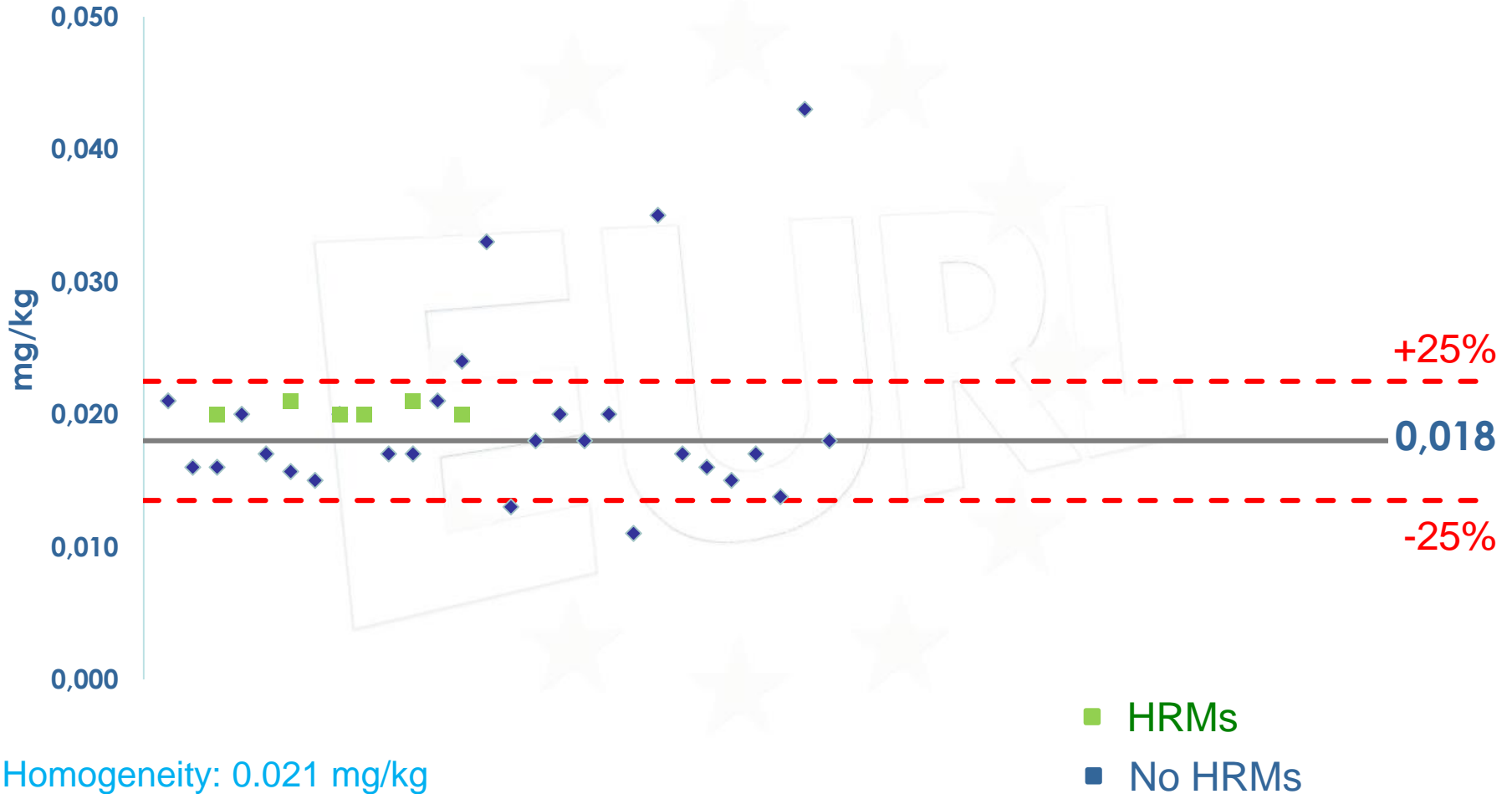


Homogeneity: 0.027 mg/kg

- HRMs
- No HRMs

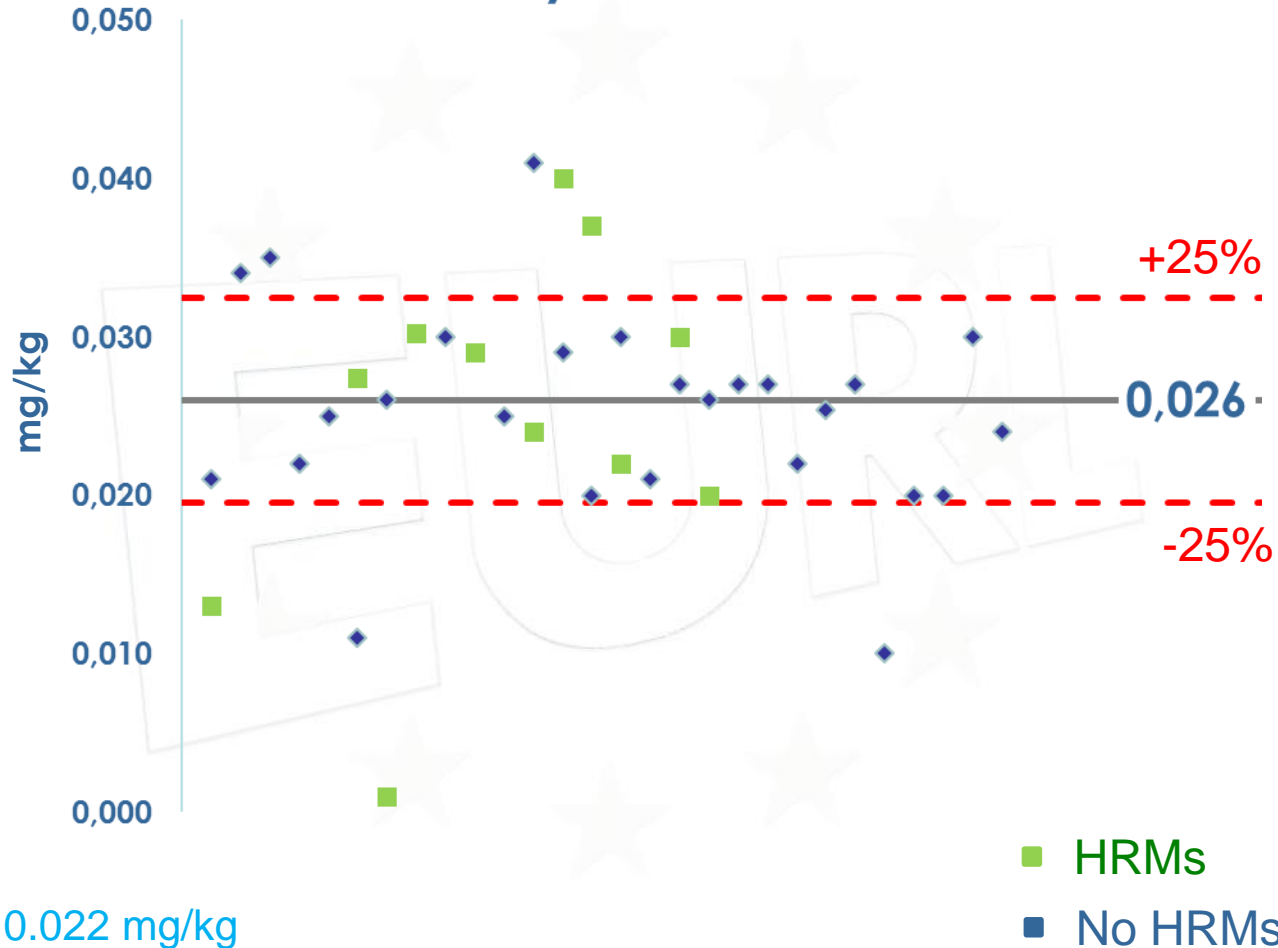
Penthiopyrad

No of Detections (% of Laboratories)	No of Concentration Reported
40 (53%)	32



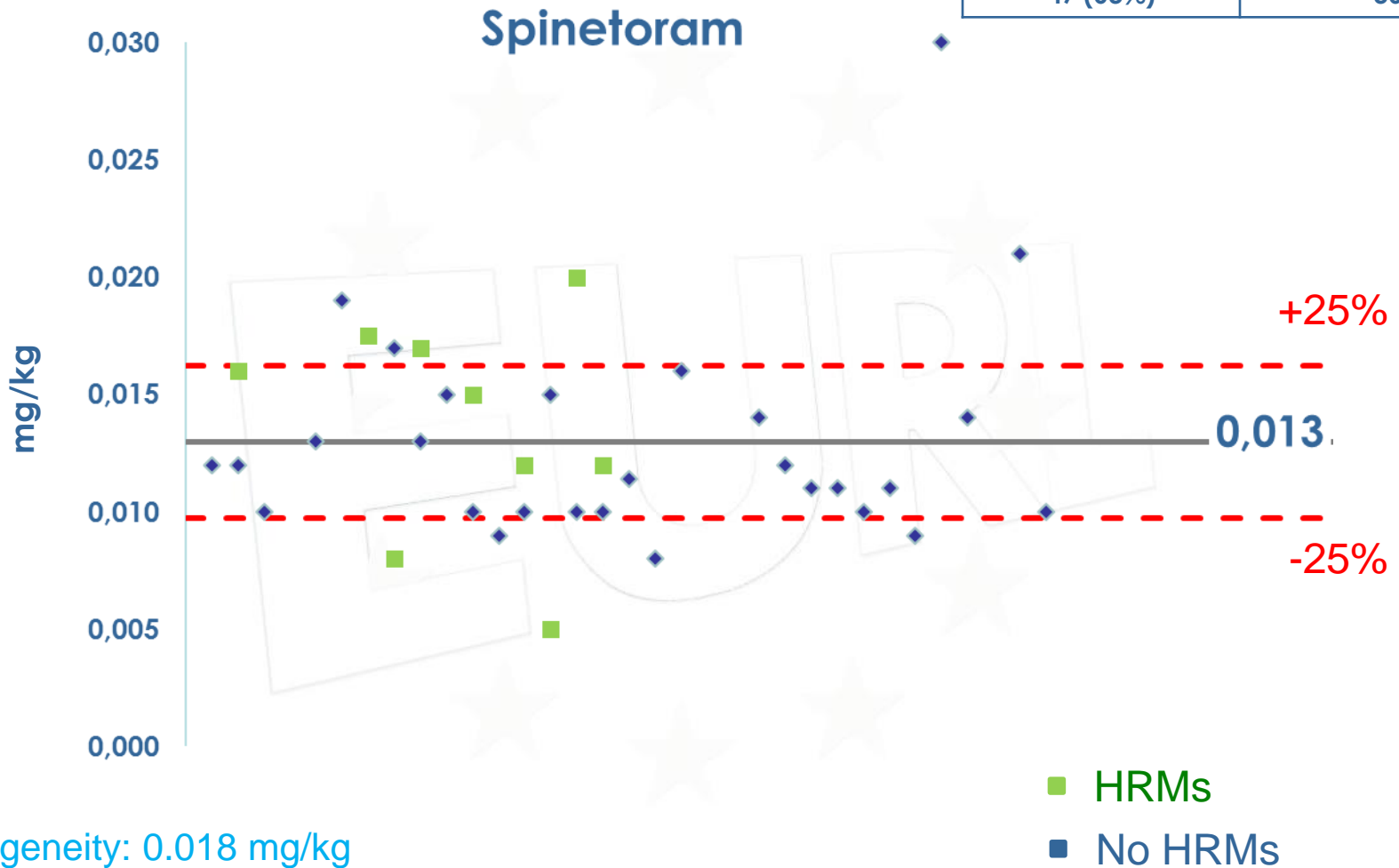
No of Detections (% of Laboratories)	No of Concentration Reported
45 (60%)	37

Pyridalil



Homogeneity: 0.022 mg/kg

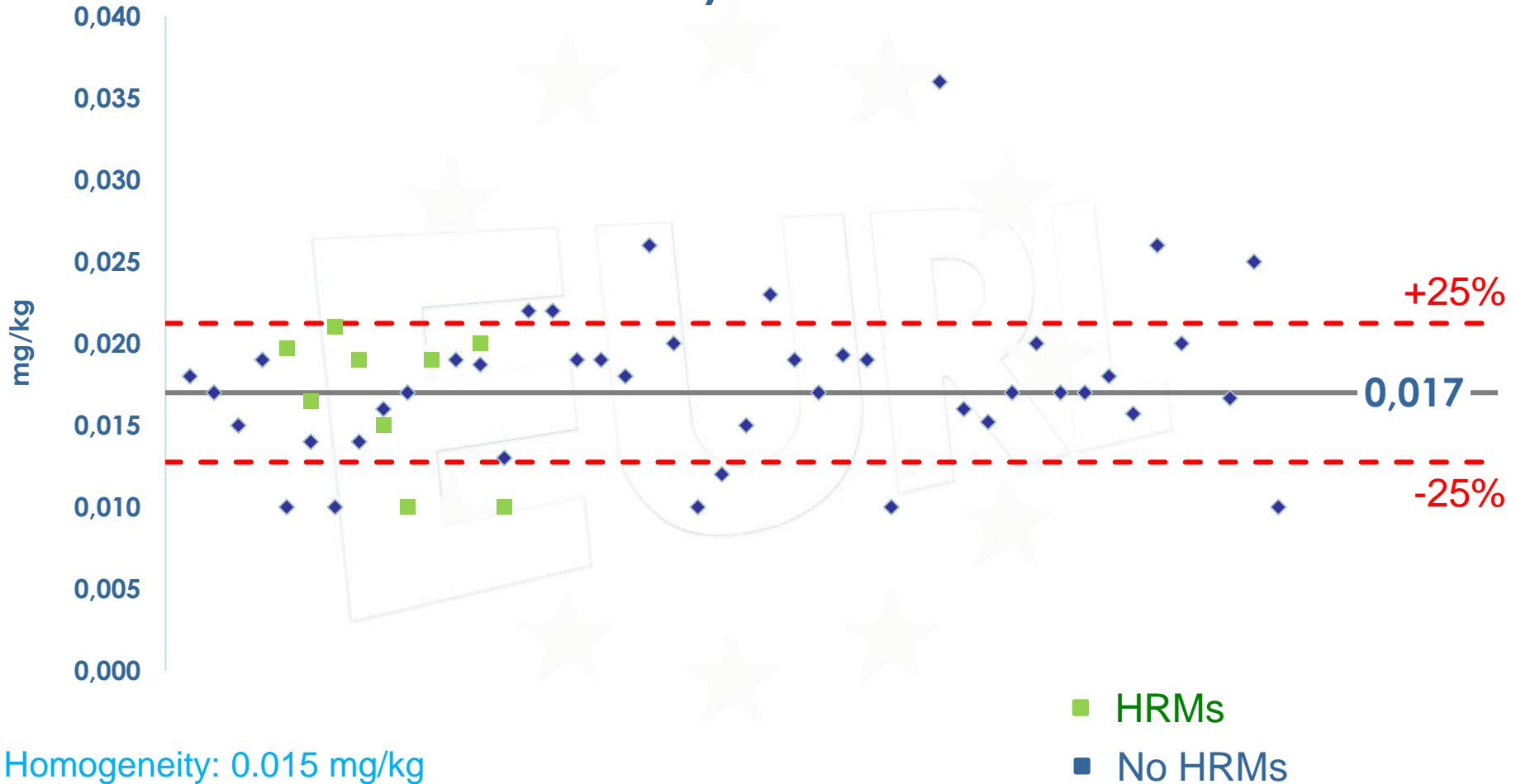
No of Detections (% of Laboratories)	No of Concentration Reported
47 (63%)	36



Homogeneity: 0.018 mg/kg

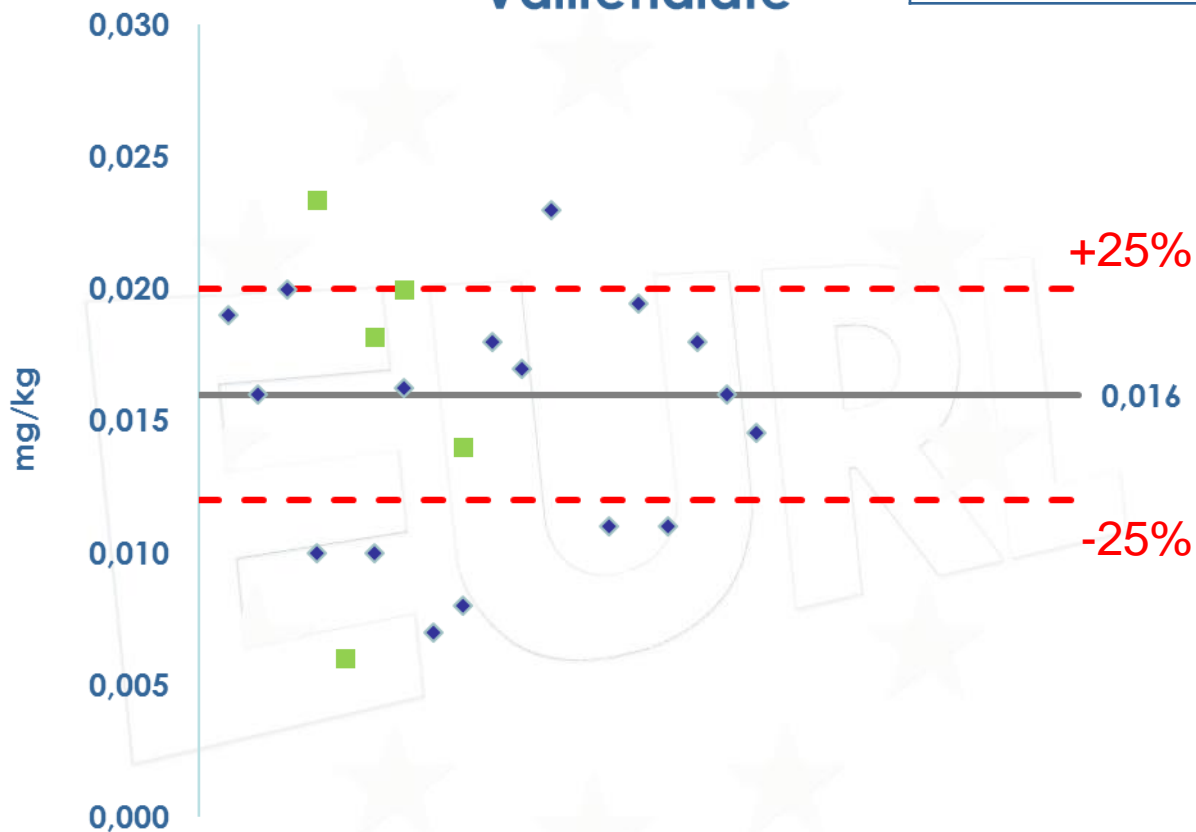
No of Detections (% of Laboratories)	No of Concentration Reported
58 (77%)	52

Tricyclazole



No of Detections (% of Laboratories)	No of Concentration Reported
30 (40%)	23

Valifenalate



- HRMs
- No HRMs

Homogeneity: 0.019 mg/kg

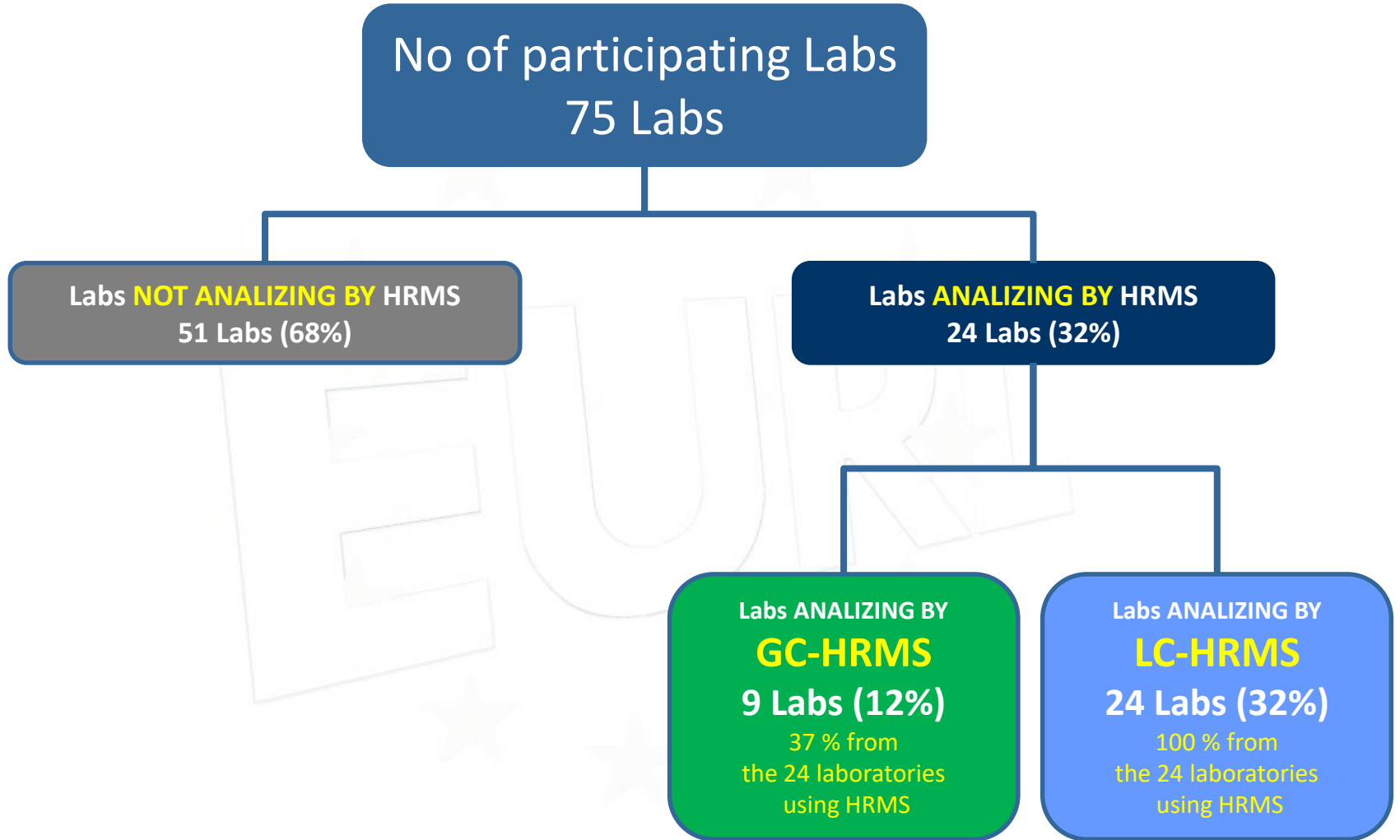
Results

Other pesticides reported by 3 or more laboratories:

NONE

LAB. CODE	Total Detections (all of them)	GC Detections	LC Detections	Total Full Scan	GC Full Scan	LC Full Scan
Lab001	22	10	12	22	10	12
Lab002	11	7	4	7	7	7
Lab003	15	8	7	15	8	7
Lab004	16	11	5	0	0	0
Lab005	17	6	0	0	0	0
Lab006	6	3	0	0	0	0
Lab007	14	8	0	8	8	0
Lab008	3	0	0	0	0	0
Lab009	16	9	0	0	0	0
Lab010	19	8	0	0	0	0
Lab011	25	0	0	14	14	0
Lab012	14	1	0	0	0	0
Lab013	11	8	0	0	0	0
Lab014	14	8	0	0	0	0
Lab015	14	8	0	0	0	0
Lab016	14	8	0	0	0	0
Lab017	14	8	0	0	0	0
Lab018	21	3	0	21	3	18
Lab019	10	5	0	0	0	4
Lab020	16	9	0	13	9	12
Lab021	33	6	0	0	0	0
Lab022	24	14	0	0	0	0
Lab023	14	7	0	9	0	0
Lab024	13	8	0	0	0	0
Lab025	23	6	0	0	0	0
Lab026	14	7	0	0	0	0
Lab027	13	8	0	0	0	0
Lab028	0	9	0	0	0	0
Lab029	9	2	0	0	0	0
Lab030	13	4	0	0	0	0
Lab031	13	8	0	9	0	0
Lab032	22	9	0	22	9	13
Lab033	15	8	0	0	0	11
Lab034	14	3	0	14	3	0
Lab035	13	9	0	0	0	0
Lab036	0	9	0	0	0	0
Lab037	9	2	0	0	0	0
Lab038	13	4	0	0	0	0
Lab039	13	8	0	0	0	0
Lab040	13	15	0	13	0	0
Lab041	12	3	0	12	0	0
Lab042	5	2	0	0	0	0
Lab043	9	6	0	0	0	0
Lab044	7	7	0	0	0	0
Lab045	12	1	0	0	0	0
Lab046	9	5	0	0	0	0
Lab047	7	1	0	0	0	0
Lab048	10	5	0	0	0	0
Lab049	8	3	0	0	0	0
Lab050	8	0	0	0	0	0
Lab051	3	0	0	0	0	0
Lab052	13	1	0	0	0	0
Lab053	14	7	0	0	0	0
Lab054	11	6	0	9	1	0
Lab055	15	7	0	1	8	0
Lab056	15	7	0	4	0	0
Lab057	8	4	0	0	0	0
Lab058	14	9	0	0	0	0
Lab059	14	9	0	0	0	0
Lab060	11	13	0	13	8	0
Lab061	8	0	0	8	15	0
Lab062	20	6	0	0	0	0
Lab063	14	5	0	12	0	0
Lab064	11	9	0	0	0	0
Lab065	15	7	0	0	0	0
Lab066	8	4	0	0	0	0
Lab067	20	6	0	0	0	0
Lab068	14	5	0	0	0	0
Lab069	26	9	0	0	0	0
Lab070	15	7	0	0	0	0
Lab071	23	5	0	0	0	0
Lab072	16	9	0	9	25	0
Lab073	10	5	0	35	0	0
Lab074	35	11	0	0	0	0
Lab075	15	6	0	0	0	0
Lab076	11	3	0	0	0	0
Lab077	8	11	0	0	0	0
Lab078	16	5	0	5	1	0
Lab079	15	5	0	0	0	0
Lab080	9	8	0	0	0	0
Lab081	13	5	0	0	0	0
Lab082	14	12	0	14	0	0
Lab083	2	2	0	0	0	0
Lab084	19	0	0	16	0	0
Lab085	6	4	0	0	0	0
Lab086	4	7	0	0	0	0
Lab087	14	0	5	11	6	0
Lab088	12	0	13	0	0	0
Lab089	13	0	0	11	13	0
Lab090	0	0	0	0	0	0

Total Detections: 717 **GC Detections: 189** **LC Detections: 528**
Total Full Scan: 243 **GC Full Scan: 55** **LC Full Scan: 188**
(34% of the Total) **(23% of the Full Scan)** **(77% of the Full Scan)**



**Thank You
for Your Attention**



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