Preliminary Results

European Commission

EURL

European Union Reference Laboratory for Pesticide Residues in Fruits & Vegetables

EUPT-FV-17

European Proficiency Test FV-17

EUPT-Panel

DG SANTÉ

Mrs. Almut Bitterhof
Mrs. Veerle Vanheusden

ORGANISING GROUP

Amadeo R. Fernández-Alba
Milagros Mezcua
Octavio Malato
Carmen Ferrer

STATISTICAL GROUP

Carmelo Rodríguez

QUALITY CONTROL GROUP

Antonio Valverde
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Michelangelo Anastassiades
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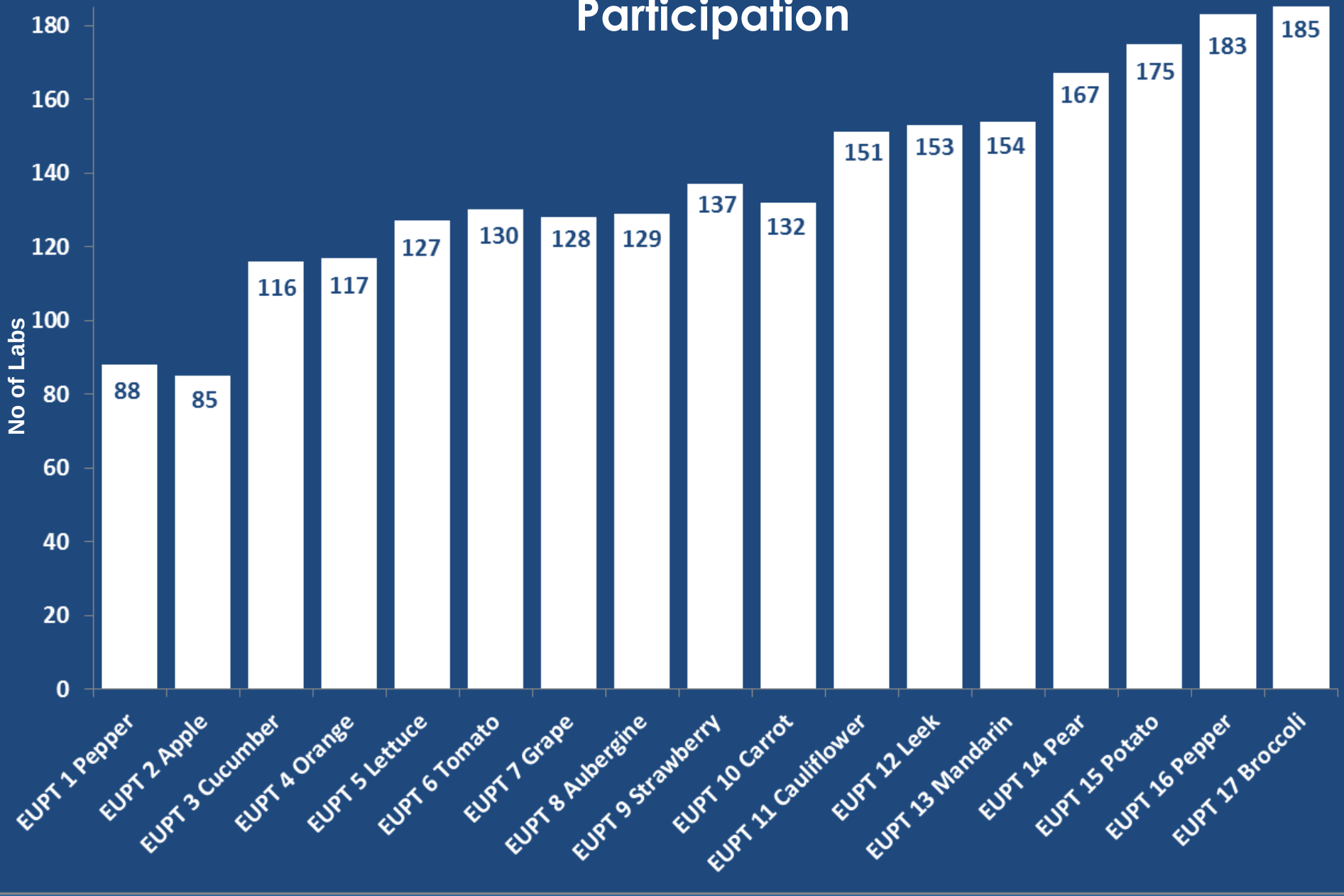
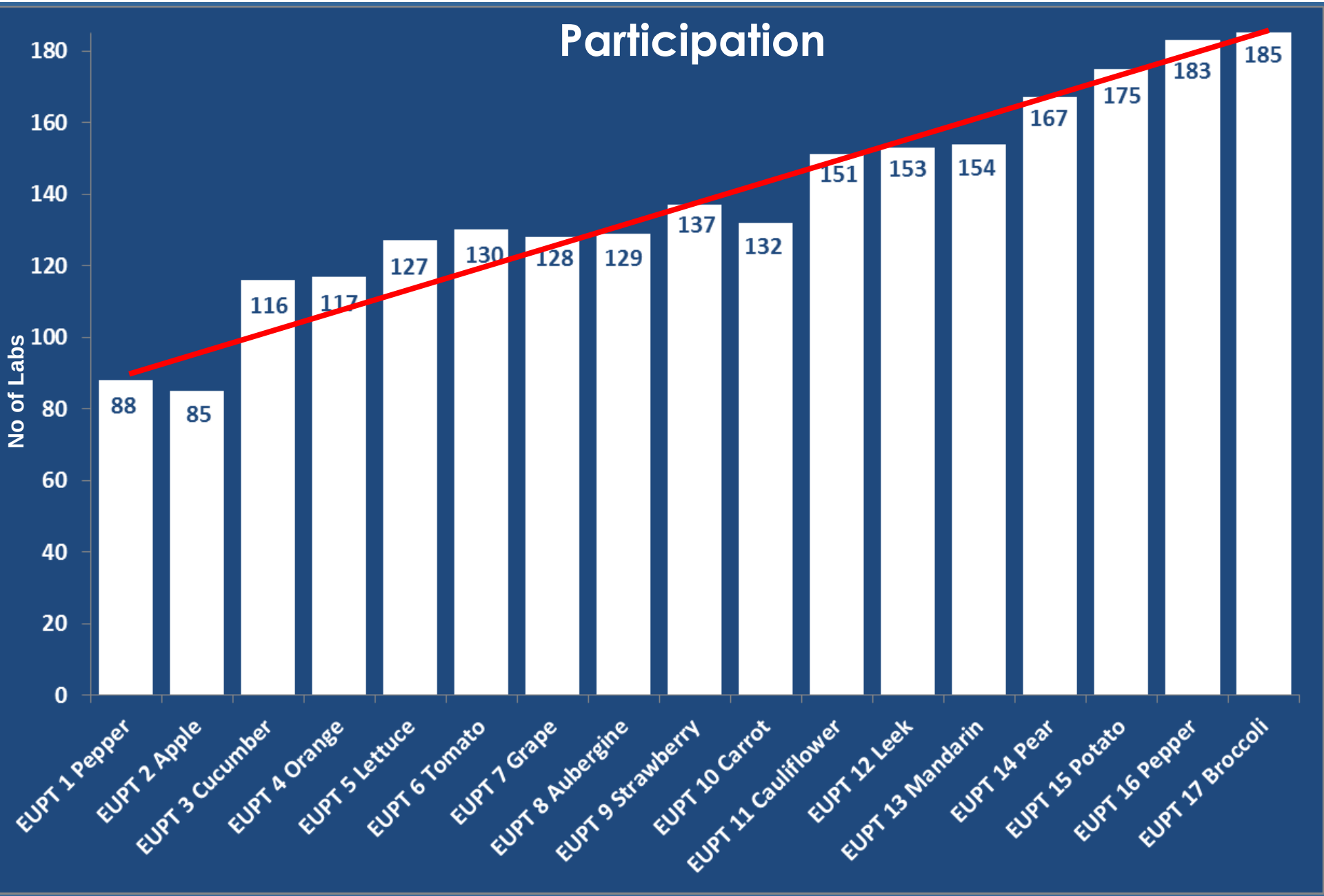
Participation




Participation
No of Labs
0
20
40
60
80
100
120
140
160
180
88
85
116
117
127
130
128
129
137
132
151
153
154
167
175
183
185
EUPT 1 Pepper
EUPT 2 Apple
EUPT 3 Cucumber
EUPT 4 Orange
EUPT 5 Lettuce
EUPT 6 Tomato
EUPT 7 Grape
EUPT 8 Aubergine
EUPT 9 Strawberry
EUPT 10 Carrot
EUPT 11 Cauliflower
EUPT 12 Leek
EUPT 13 Mandarin
EUPT 14 Pear
EUPT 15 Potato
EUPT 16 Pepper
EUPT 17 Broccoli

20th May 2015

Country	No. of Labs	Country	No. of Labs	Country	No. of Labs
Austria	2	Hungary	4	Serbia	2
Belgium	3	Iceland	1	Singapore	1
Brazil	2	Ireland	1	Slovakia	2
Bulgaria	2	Italy	23	Slovenia	3
China	1	Jamaica	1	Spain	32
Costa Rica	1	Kenya	2	Sweden	2
Croatia	6	Latvia	1	Switzerland	2
Cyprus	1	Lebanon	1	Thailand	1
Czech Republic	3	Lithuania	1	The Netherlands	4
Denmark	2	Luxembourg	1	Turkey	1
Egypt	1	Norway	1	United Kingdom	4
Estonia	2	Peru	1	Uruguay	1
Finland	2	Poland	11	Total No. of Labs = 185 Total No. of Non-EU countries Labs = 17 Total No. of Countries = 44 EU countries, EFTA countries, Other countries	
France	7	Portugal	2		
Germany	29	Romania	4		
Greece	10	Saudi Arabia	1		

Participation

Total No. of Labs = 185	Total No. of Countries = 44
EU/EFTA Labs = 168	EU/EFTA countries = 30
Other countries Labs = 17	Other countries = 14

(27 EU + 3 EFTA + 2 Candidate countries + 12 other countries)

183 pesticides

Target List

3-hydroxy-carbofuran
Acephate
Acetamiprid
Acrinathrin
Aldicarb
Aldicarb Sulfone
Aldicarb Sulfoxide
Azinphos-methyl
Azoxystrobin
Benfuracarb
Benomyl
Bifenthrin
Bitertanol
Boscalid
Bromopropylate
Bromuconazole
Bupirimate
Buprofezin
Cadusafos
Carbaryl
Carbendazim
Carbofuran
Carbosulfan
Chlorfenapyr
Chlorfenvinphos
Chlorobenzilate
Chlorothalonil
Chlorpropham (only pa
Chlorpyrifos
Chlorpyrifos-methyl
Clofentezine (only pare
Clothianidin
Cyfluthrin (cyfluthrin in
isomers))
Cypermethrin
Cyproconazole
Cyprodinil
Deltamethrin
Demeton-S-methylsulfon
Desmethyl-pirimicarb
Diazinon
Dichlofluanid (only parent
Dichlorvos
Dicloran
Dicofol
Diethofencarb
Difenoconazole
Diflubenzuron
Dimethoate
Dimethomorph
Dimethylaminosulfotoluid
Diniconazole
Diphenylamine
Endosulfan alpha
Endosulfan beta
Endosulfan sulfate
EPN
Epoxiconazole
Ethion
Ethirimol
Ethoprophos
Etofenprox
Fenamidone
Fenamiphos
Fenamiphos sulfone
Fenamiphos sulfoxide
Fenarimol
Fenazaquin
Fenbuconazole
Fenhexamid
Fenitrothion
Fenoxycarb
Fenpropathrin
Fenpropimorph
Fenpyroximate
Fenthion
Fenthion oxon
Fenthion oxon sulfone
Fenthion oxon sulfoxic
Fenthion sulfone
Fenthion sulfoxide
Fenvalerate and Esfe
Fipronil (only parent co
Fludioxonil
Flufenoxuron
Fluopicolide
Fluopyram
Fluquinconazole
Flusilazole
Flutolanil
Flutriafol
Fosthiazate
Hexaconazole
Hexythiazox
Imazalil
Imidacloprid
Indoxacarb (Indoxacar
Iprodione
Iprovalicarb
Isocarbophos
Isofenphos-methyl
Isoprothiolane
Kresoxim-methyl
Lambda-Cyhalothrin
Linuron
Lufenuron
Malaoxon
Malathion
Mandipropamid
Mepanipyrim (only parent c
Metaflumizone
Metalaxyl and metalaxyl-M
Metconazole
Methamidophos
Methidathion
Methiocarb
Methiocarb sulfone
Methiocarb sulfoxide
Methomyl
Methoxyfenozide
Monocrotophos
Myclobutanil
Omethoate
Orthophenylphenol
Oxadixyl
Oxamyl
Oxydemeton-methyl
Paclobutrazole
Paraoxon-methyl
Parathion-ethyl
Parathion-methyl
Penconazole
Pencycuron
Pendimethalin
Permethrin
Phenthoate
Phosalone
Phosmet
Phosmet oxon
Phoxim
Pirimicarb
Pirimiphos-methyl
Prochloraz (only parent con
Procymidone
Profenofos
Propargite
Propiconazole
Propyzamide
Prothioconazole (Prothioconazole-desthio)
Prothiofos
Pyraclostrobin
Pyridaben
Pyrimethanil
Pyriproxyfen
Quinoxyfen
Spinosad (sum of spinosyn A and spinosyn
Spirodiclofen
Spiroxamine
Tau-Fluvalinate
Tebuconazole
Tebufenozide
Tebufenpyrad
Teflubenzuron
Tefluthrin
Terbuthylazine
Tetraconazole
Tetradifon
Thiabendazole
Thiacloprid
Thiamethoxam
Thiodicarb
Thiophanate-methyl
Tolclofos-methyl
Tolylfluanid
Triadimefon
Triadimenol
Triazophos
Trichlorfon (only parent compound)
Trifloxystrobin
Triflumuron
Trifluralin
Triticonazole
Vinclozolin (only parent compound)
Zoxamide

12 New compounds

Pesticides used for the treatment

Bupirimate	Pendimetalin
Carbendazim	Permethrin*
Diazinon	Spinosad
Difenoconazole	Thiabendazole
Diflubenzuron	Trifloxystrobin
Methoxyfenozide	Total: 11

ALL INCLUDED IN MACP

COMMISSION IMPLEMENTING REGULATION (EU) No 400/2014 of 22 April 2014
concerning a coordinated multiannual control programme of the Union for 2015, 2016 and 2017 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 .

*** New in the target list**

Calendar

ACTIVITY	DATE
- Publishing the Target Pesticide List, Calendar and Matrix on the Web page.	15th December 2014
- Receiving Application Form from invited laboratories.	12th Jan-13th Feb 2015
- Specific Protocol published on the Web site.	23rd Feb 2015 at the latest
- Deadline for receiving Laboratory scope: Form 0	23rd Feb-6th March 2015
- Sample distribution.	16th March 2015
- Deadline for receiving sample acceptance: Form 1	20th March 2015
- Deadline for receiving results: Forms 2, 3 and 4	13th April 2015
- Filling in Form 5	20th-24th April 2015
- Preliminary Report: only results, no statistical treatment.	May 2015
- Final Report distributed to the Laboratories.	December 2015

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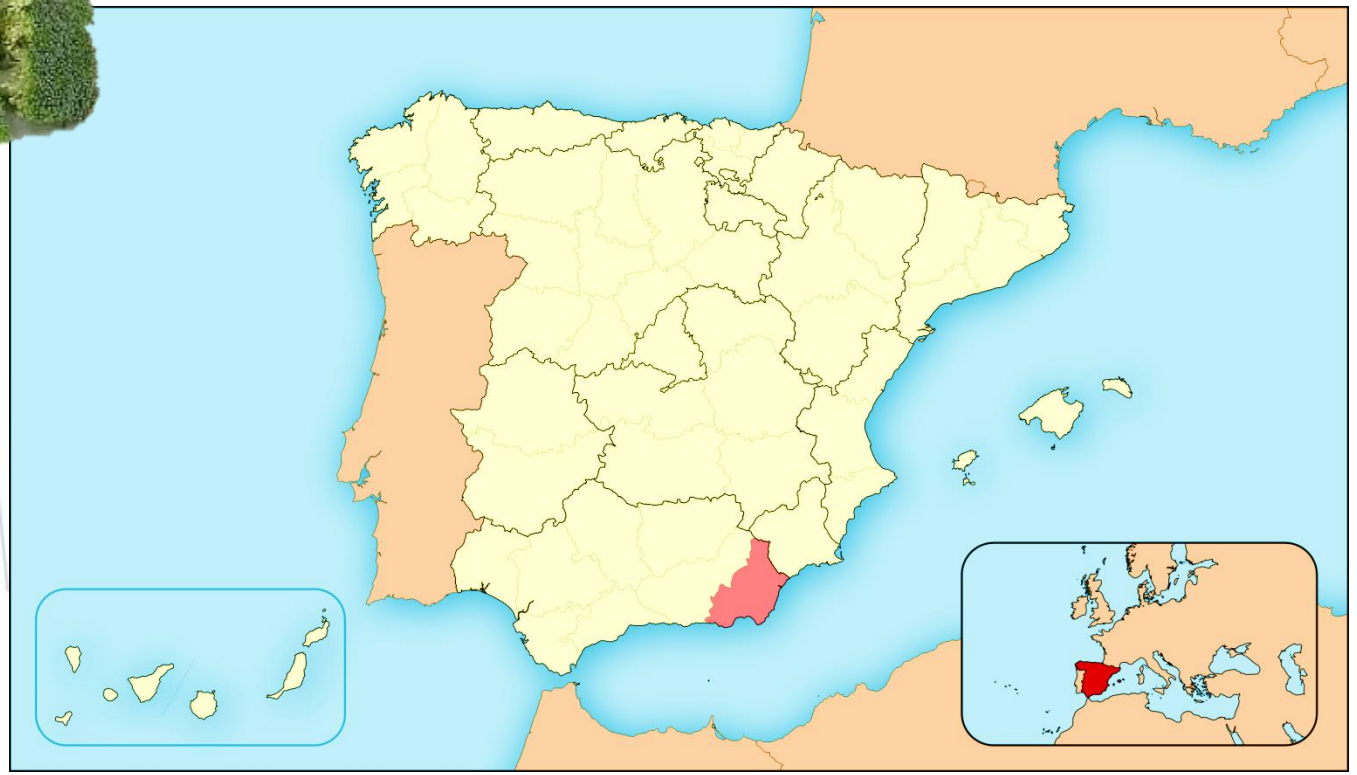
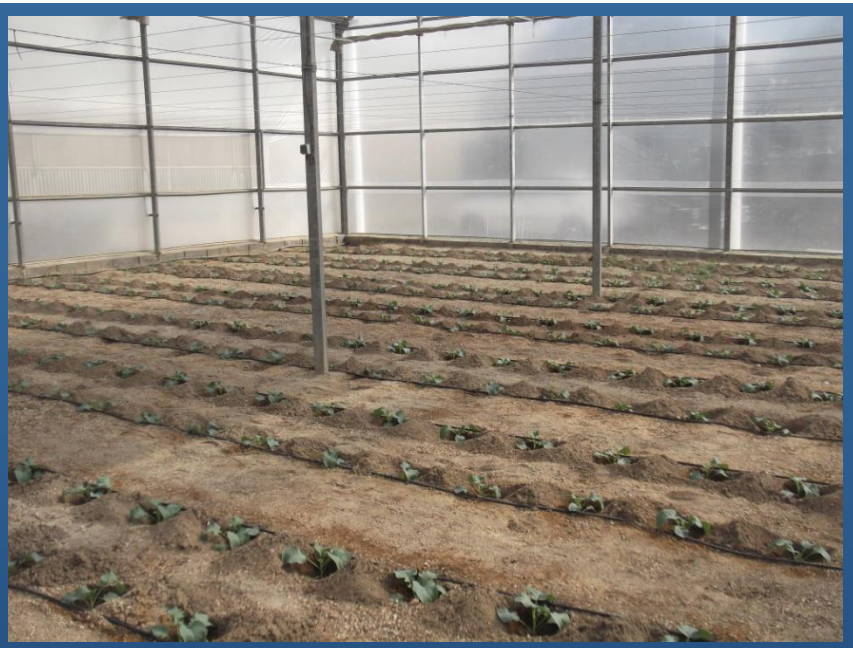
European Proficiency Test FV-17

Broccoli

Organic broccolis were grown in a greenhouse in Almería, Spain.





Before harvest, the broccolis were treated with commercial formulations

Commercial products used to treat the sample

Pesticide	Type	Commercial Product
Bupirimate	Commercial Formulation	Nimrod Quattro
Carbendazim	Commercial Formulation	Bengu 50 Flow
Diazinon	Commercial Formulation	Zoogama-D
Difenoconazole	Commercial Formulation	Core
Diflubenzuron	Commercial Formulation	Dimilin 25
Methoxyfenozide	Commercial Formulation	Runner
Pendimetalin	Commercial Formulation	Stonp LE
Permethrin	Commercial Formulation	Defendog
Spinosad	Commercial Formulation	Spintor 480 SG
Thiabendazole	Commercial Formulation	Textar 60
Trifloxystrobin	Commercial Formulation	Flint

Preparation of the test item

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 stability test

Results

Assigned values

Pesticides	Robust mean (mg/kg)
Spinosad	0.051
Pendimethalin	0.062
Diazinon	0.071
Bupirimate	0.16
Permethrin	0.17
Diflubenzuron	0.32
Methoxyfenozide	0.35
Trifloxystrobin	0.47
Carbendazim	0.51
Difenocozole	0.53
Thiabendazole	1.90

0.051-0.100 mg/kg

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0.100-0.500 mg/kg

> 0.500 mg/kg

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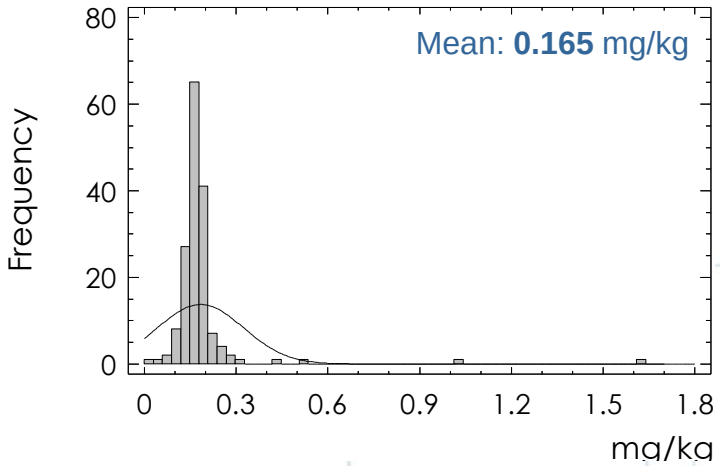
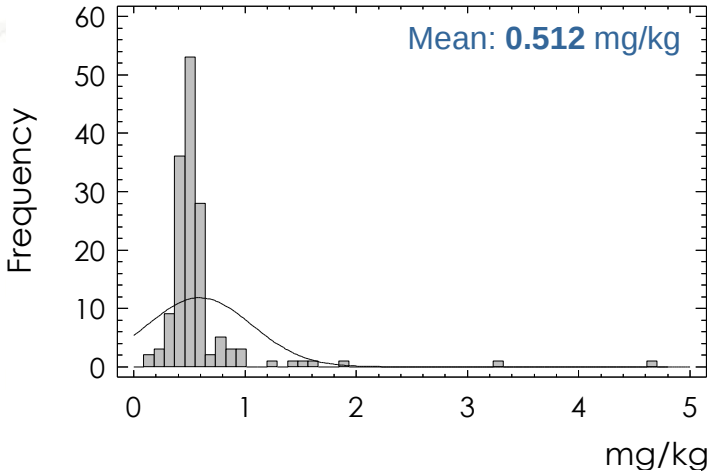
Distribution of data-Histograms

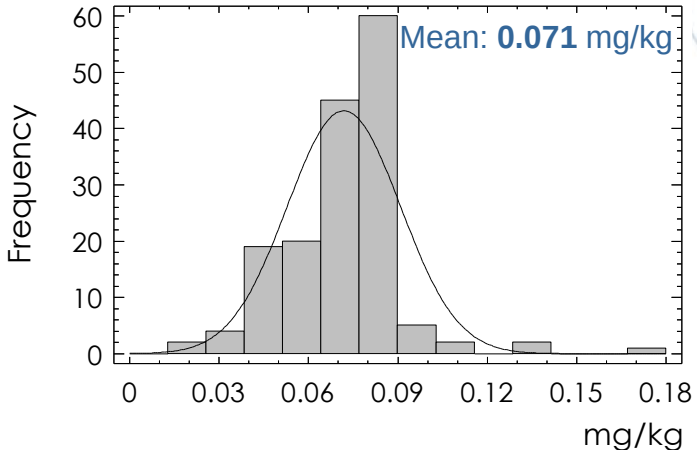
Bupirimate



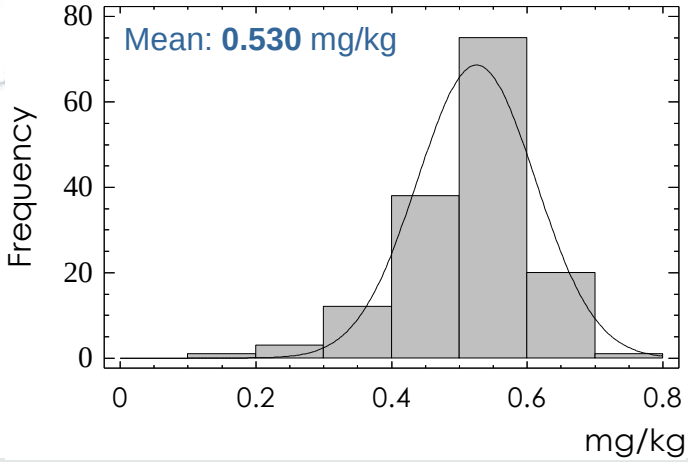
Carbendazim



Diazinon

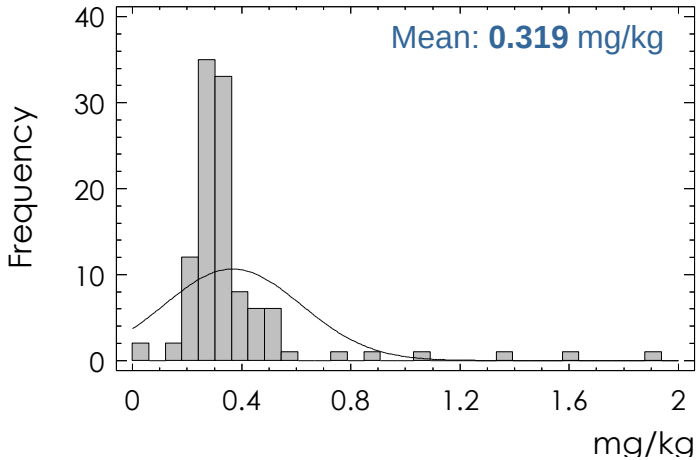


Difenocozole

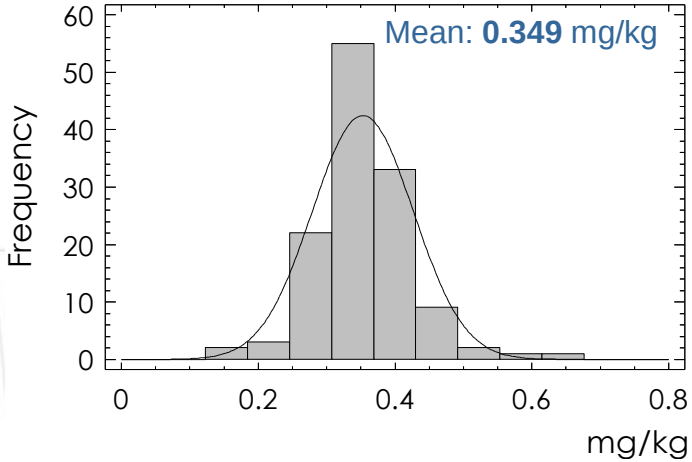


Distribution of data-Histograms

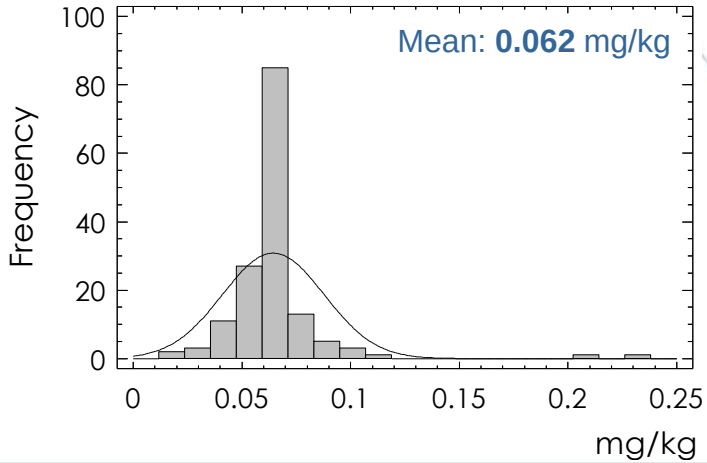
Diflubenzuron



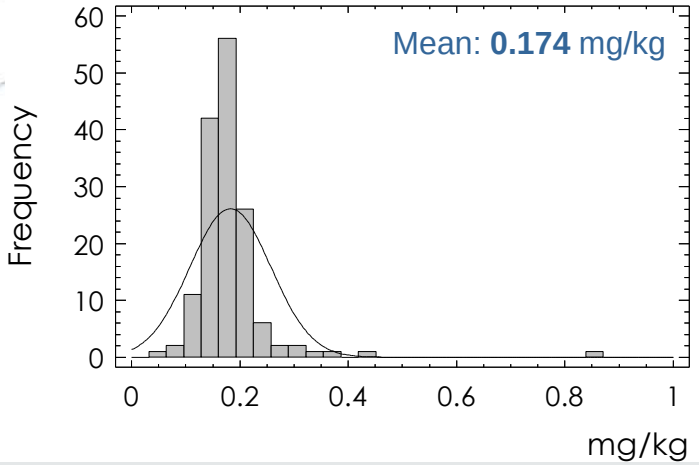
Methoxyfenozide



Pendimethalin

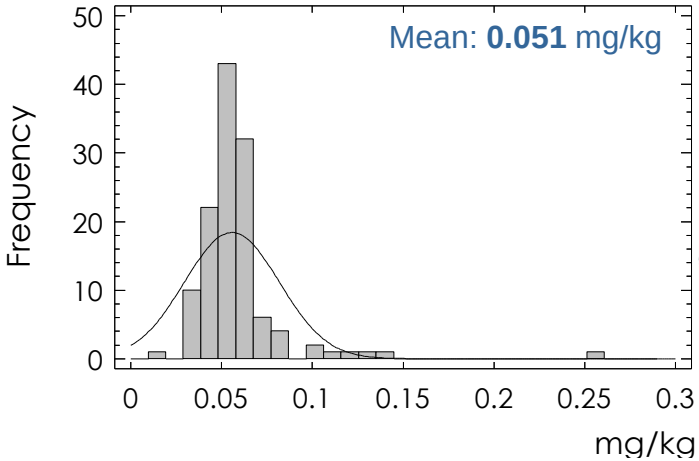


Permethrin

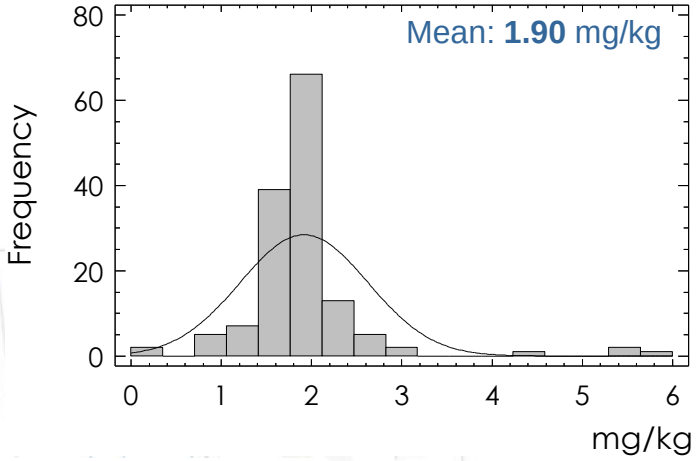


Distribution of data-Histograms

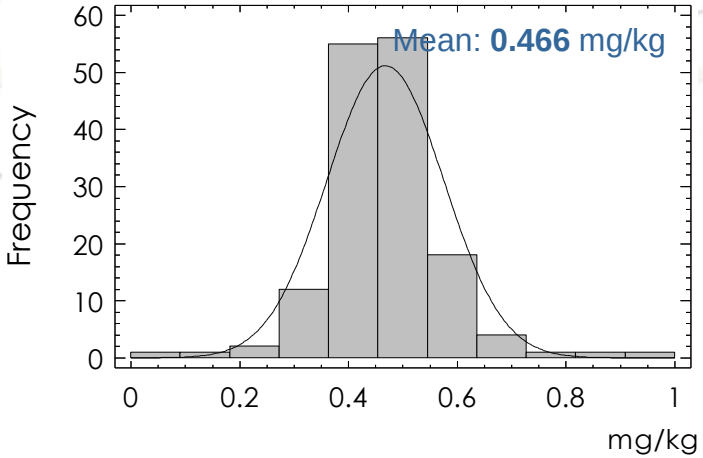
Spinosad



Thiabendazole

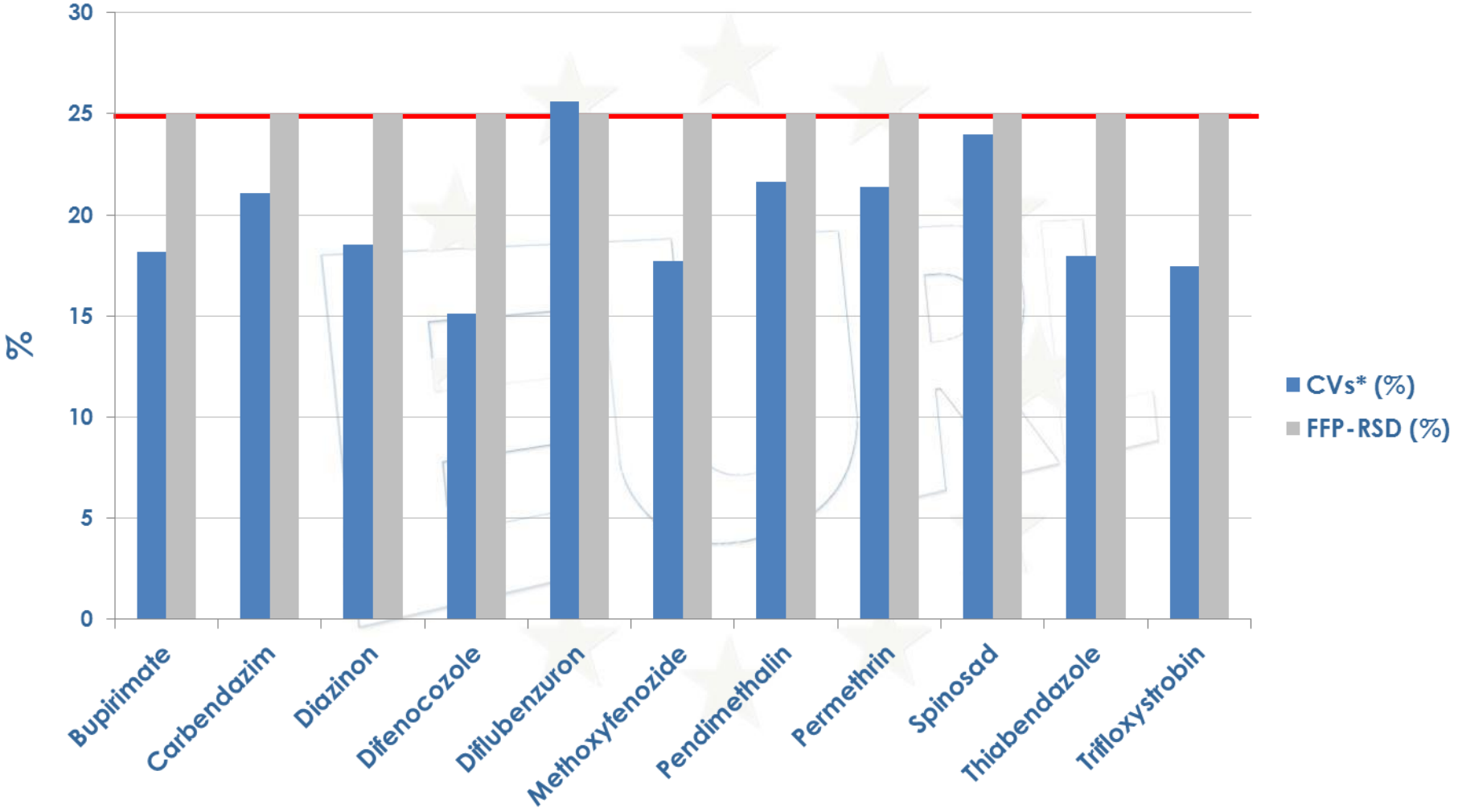


Trifloxystrobin



Pesticides	MRRL (mg/kg)	Robust mean (mg/kg)	CV (%)
Bupirimate	0.01	0.165	18.2
Carbendazim	0.01	0.512	21.1
Diazinon	0.01	0.071	18.5
Difenocozole	0.01	0.530	15.1
Diflubenzuron	0.01	0.319	25.6
Methoxyfenozide	0.01	0.349	17.7
Pendimethalin	0.01	0.062	21.6
Permethrin	0.01	0.174	21.4
Spinosad (sum of spinosyn A a spinosyn D. expr. as spinosad)	0.01	0.051	24.0
Thiabendazole	0.01	1.900	18.0
Trifloxystrobin	0.01	0.466	17.5

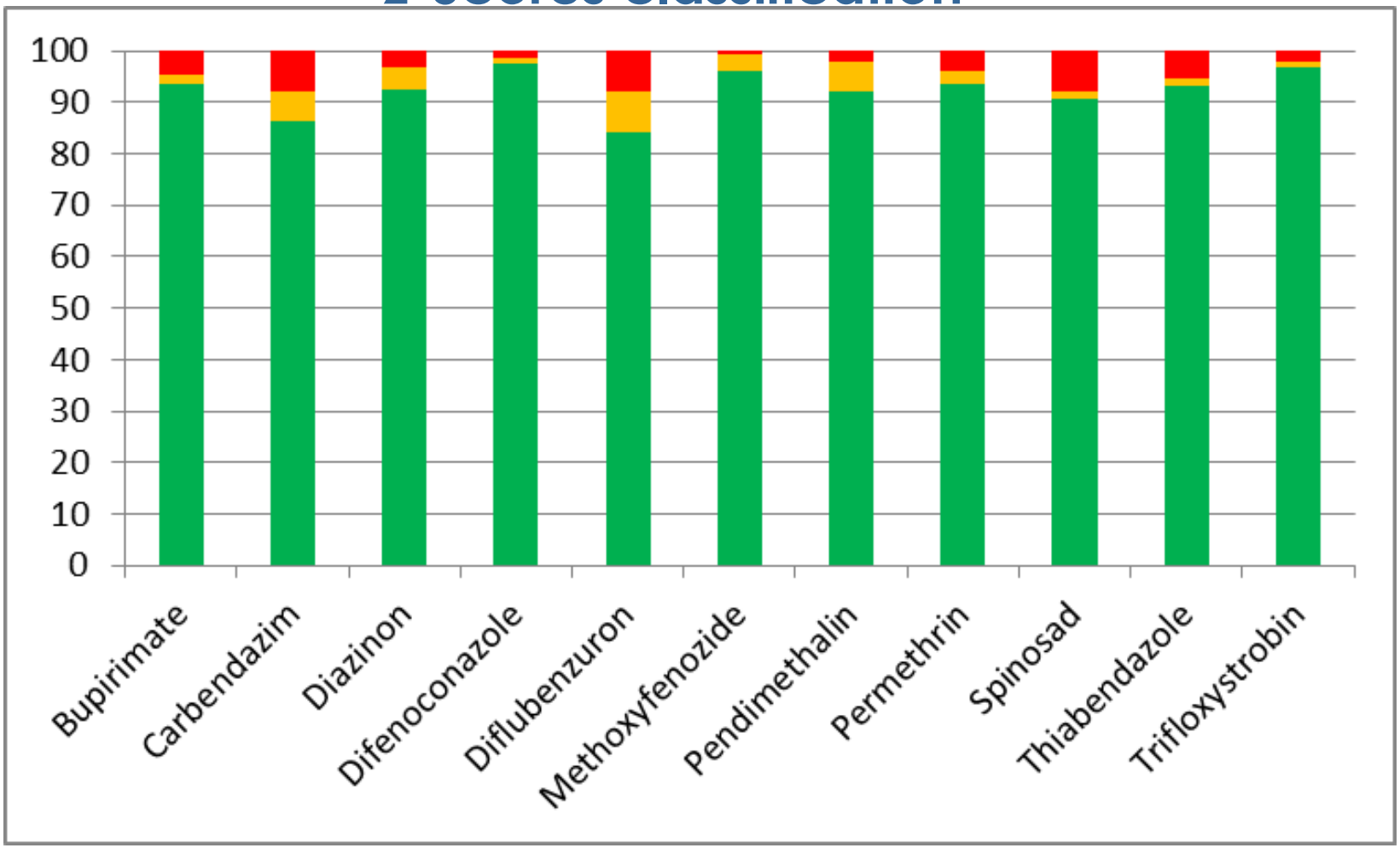
Dispersion of Results



Pesticides	No. of Reported Results	No. of False Negative Results	No. of Not Analysed Results	Percentage of Reported Results (out of 165)
Bupirimate	154	0	11	93
Carbendazim	140	0	25	85
Diazinon	160	2	3	97
Difenocozole	151	1	13	92
Diflubenzuron	111	2	52	67
Methoxyfenozide	128	0	37	78
Pendimethalin	152	1	12	92
Permethrin	152	1	12	92
Spinosad	125	2	38	76
Thiabendazole	143	2	20	87
Trifloxystrobin	152	0	13	92

z-Scores

z-Scores classification

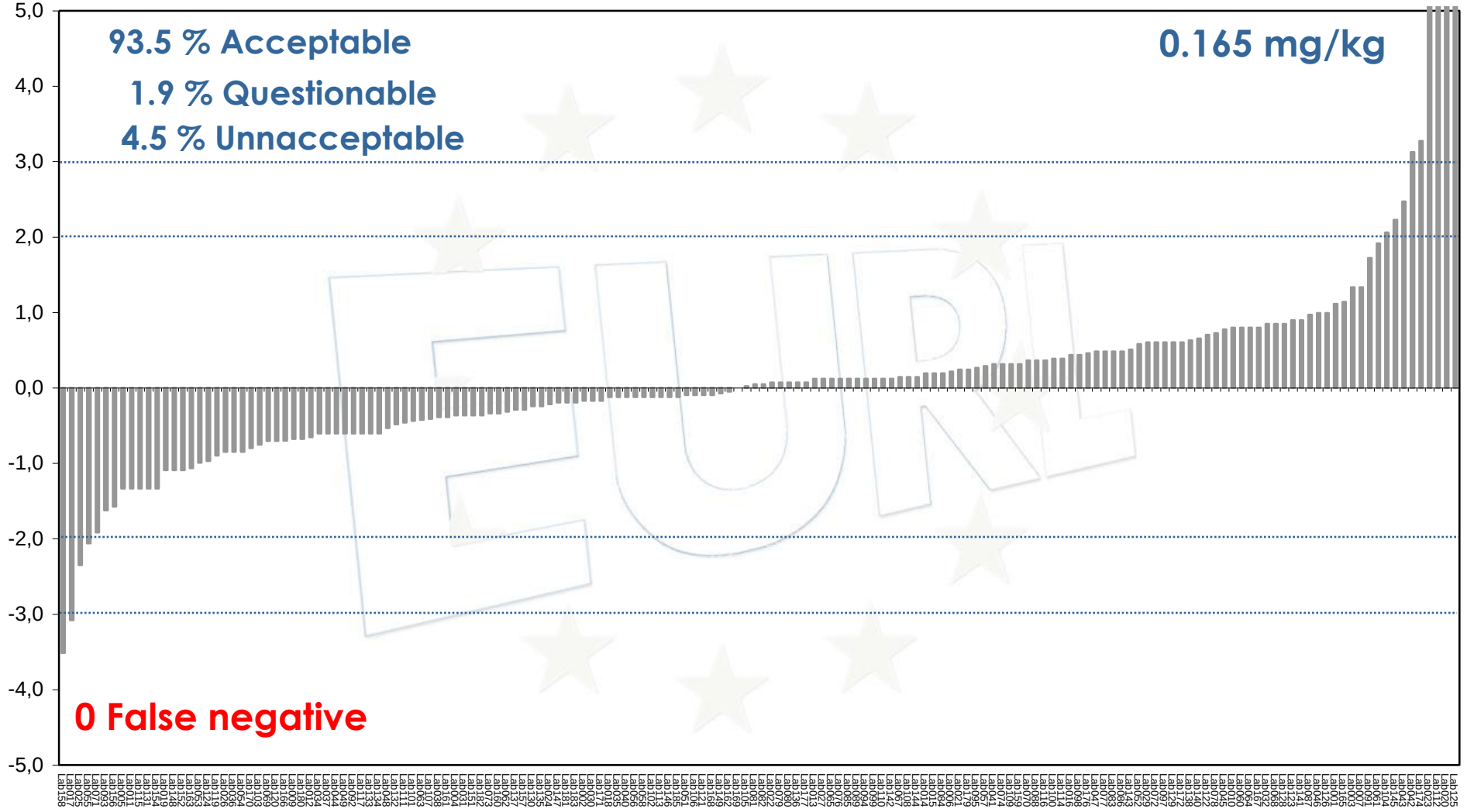


Acceptable **Questionable** **Unacceptable**

Pesticides	Robust Mean (mg/kg)	% Acceptable z-scores	% Questionable z-scores	% Unacceptable z-scores
Bupirimate	0.165	93,5	1,9	4,5
Carbendazim	0.512	86,4	5,7	7,9
Diazinon	0.071	92,6	4,3	3,1
Difenocozole	0.530	97,4	1,3	1,3
Diflubenzuron	0.319	84,1	8,0	8,0
Methoxyfenozide	0.349	96,1	3,1	0,8
Pendimethalin	0.062	92,2	5,9	2,0
Permethrin	0.174	93,5	2,6	3,9
Spinosad (sum of spinosyn A a spinosyn D. expr. as spinosad)	0.051	90,6	1,6	7,9
Thiabendazole	1.900	93,1	1,4	5,5
Trifloxystrobin	0.466	96,7	1,3	2,0

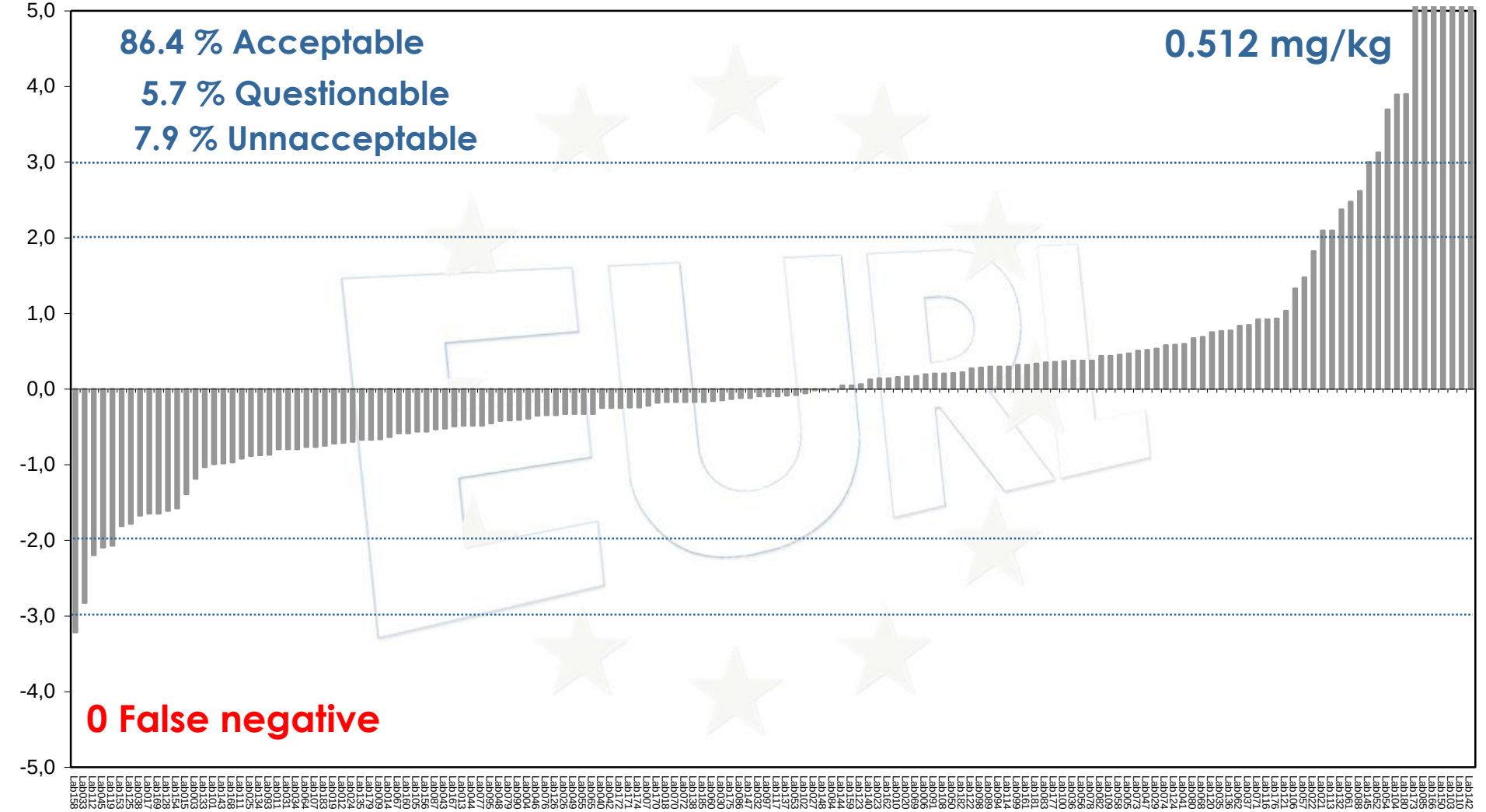
Bupirimate

EU/EFTA Laboratories



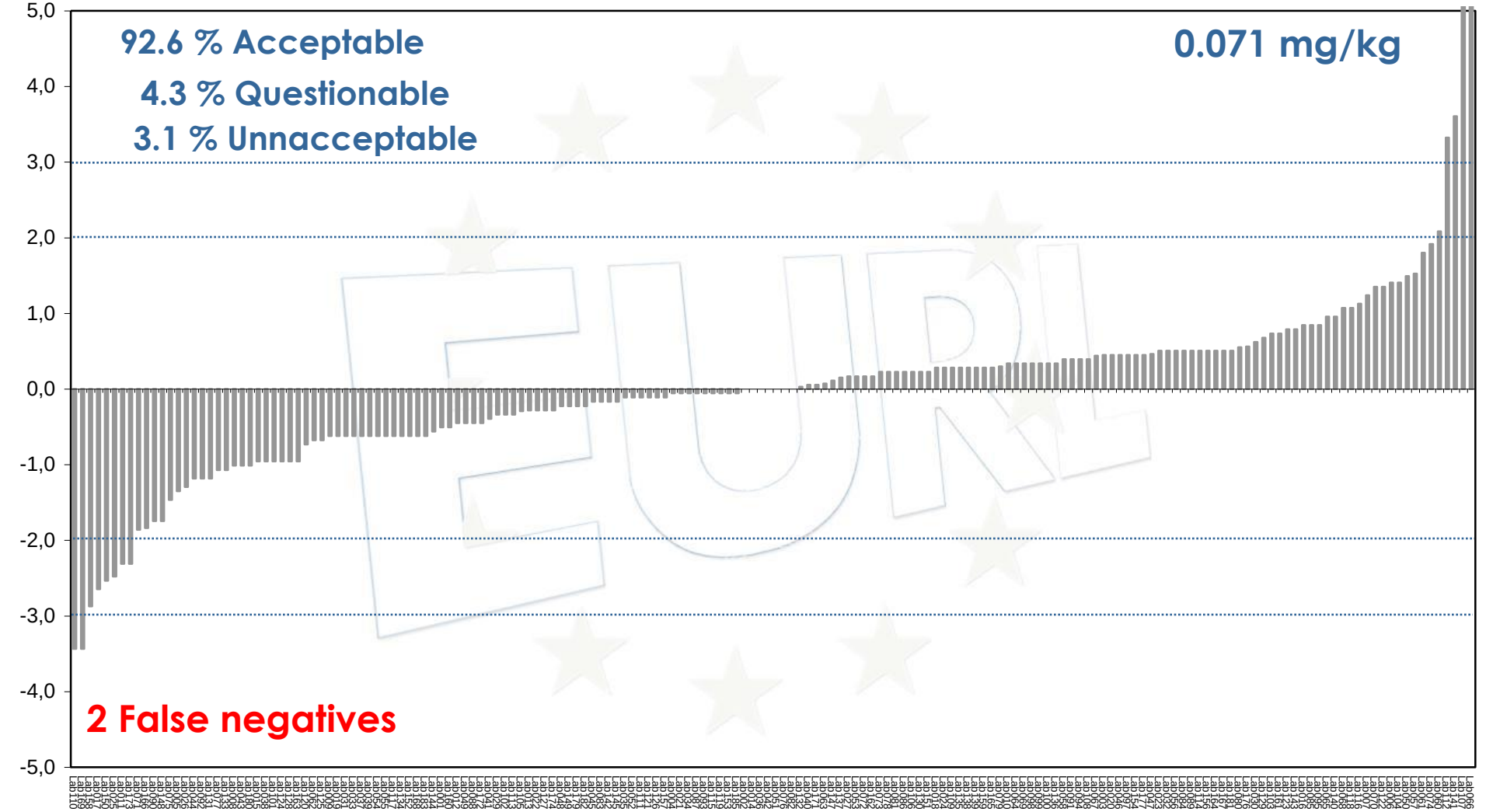
Carbendazim

EU/EFTA Laboratories



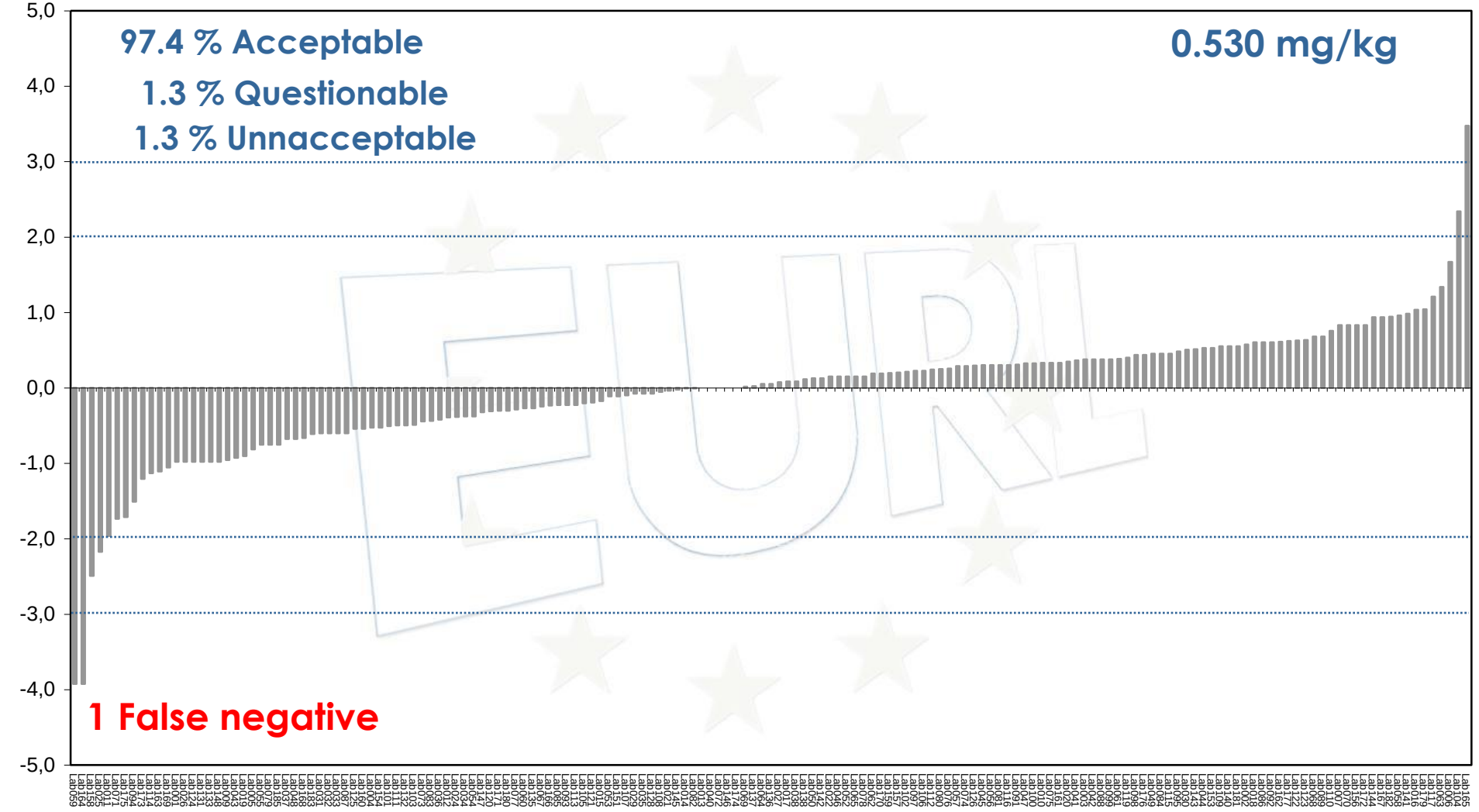
Diazinon

EU/EFTA Laboratories



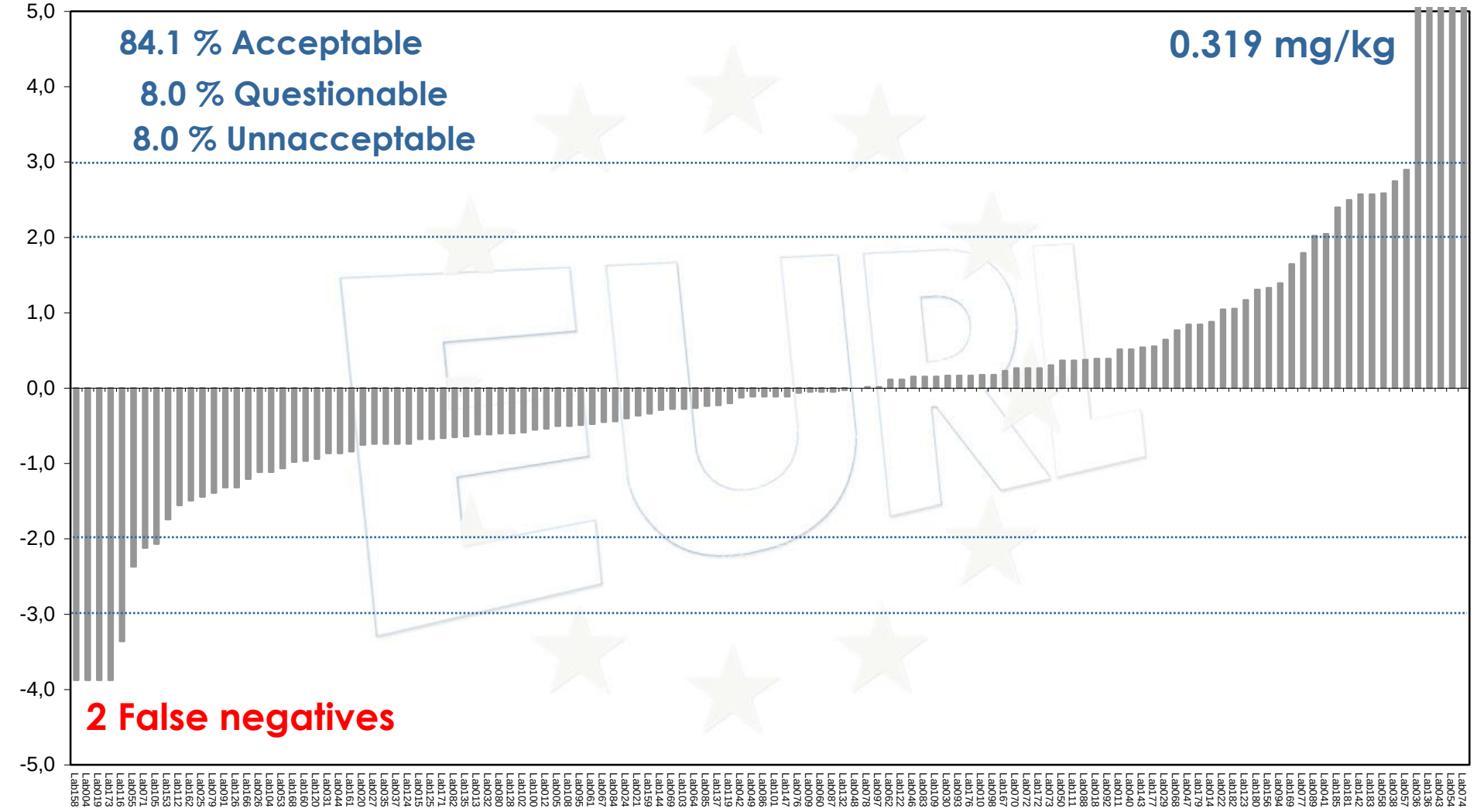
Difenoconazole

EU/EFTA Laboratories



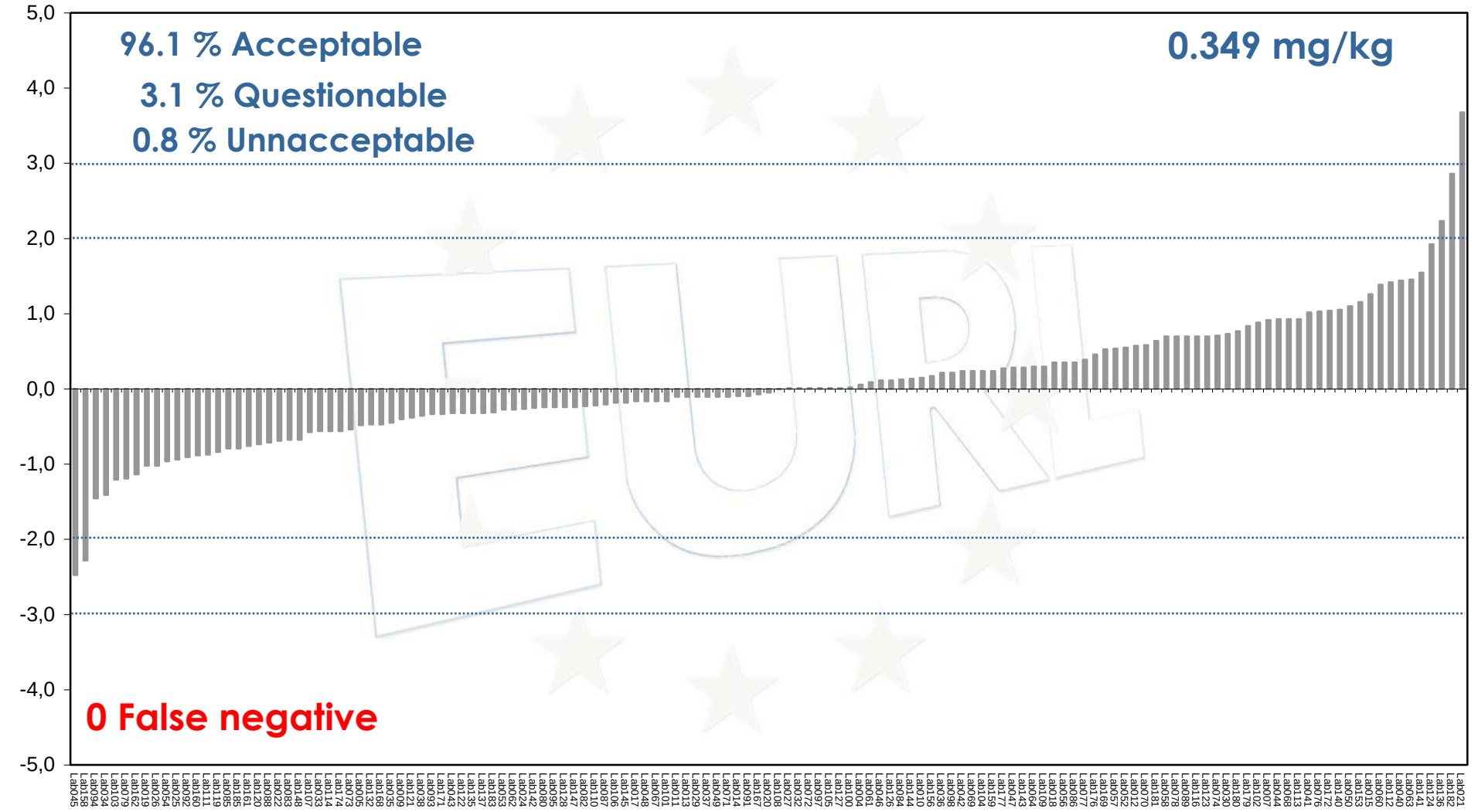
Diflubenzuron

EU/EFTA Laboratories



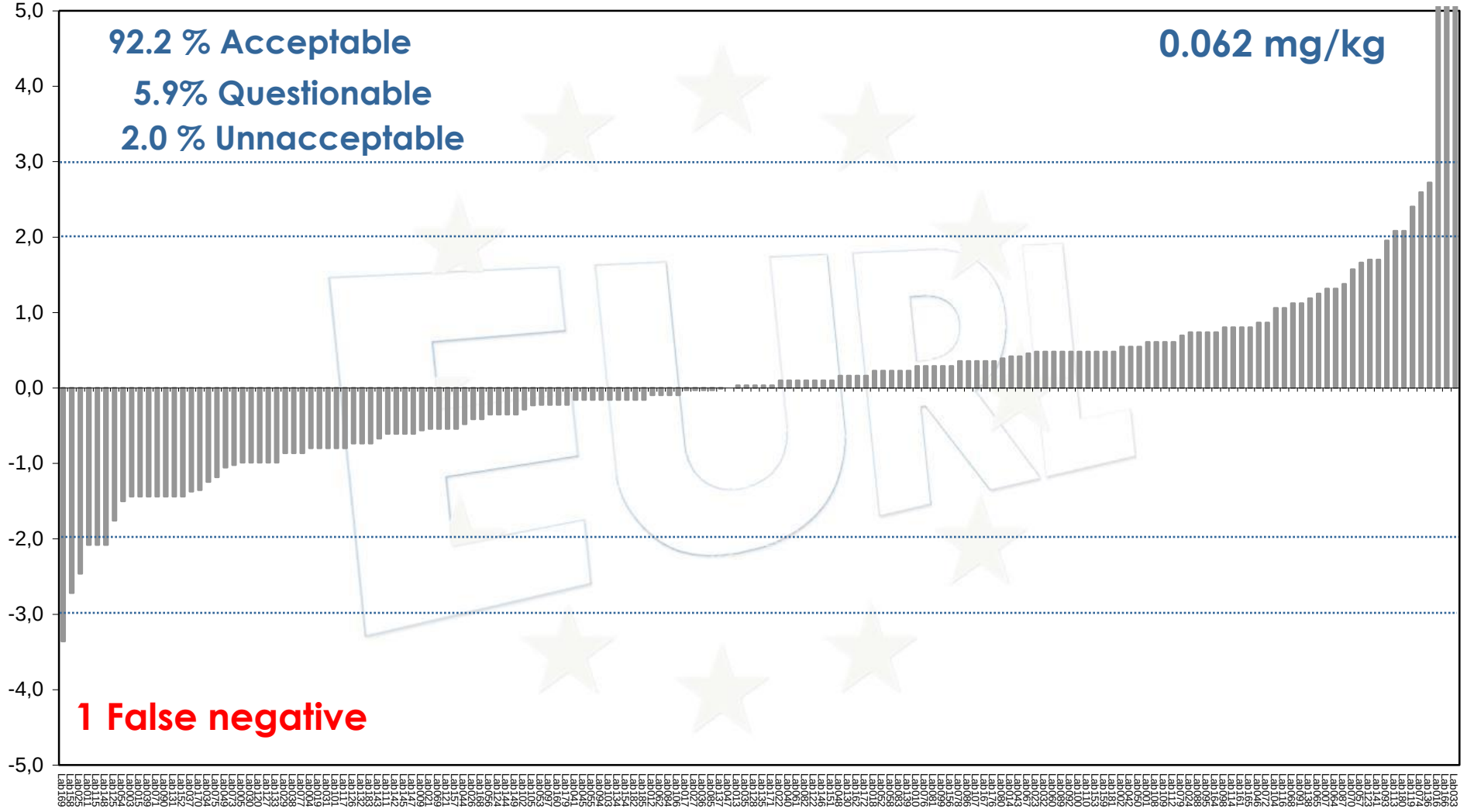
Methoxyfenozide

EU/EFTA Laboratories



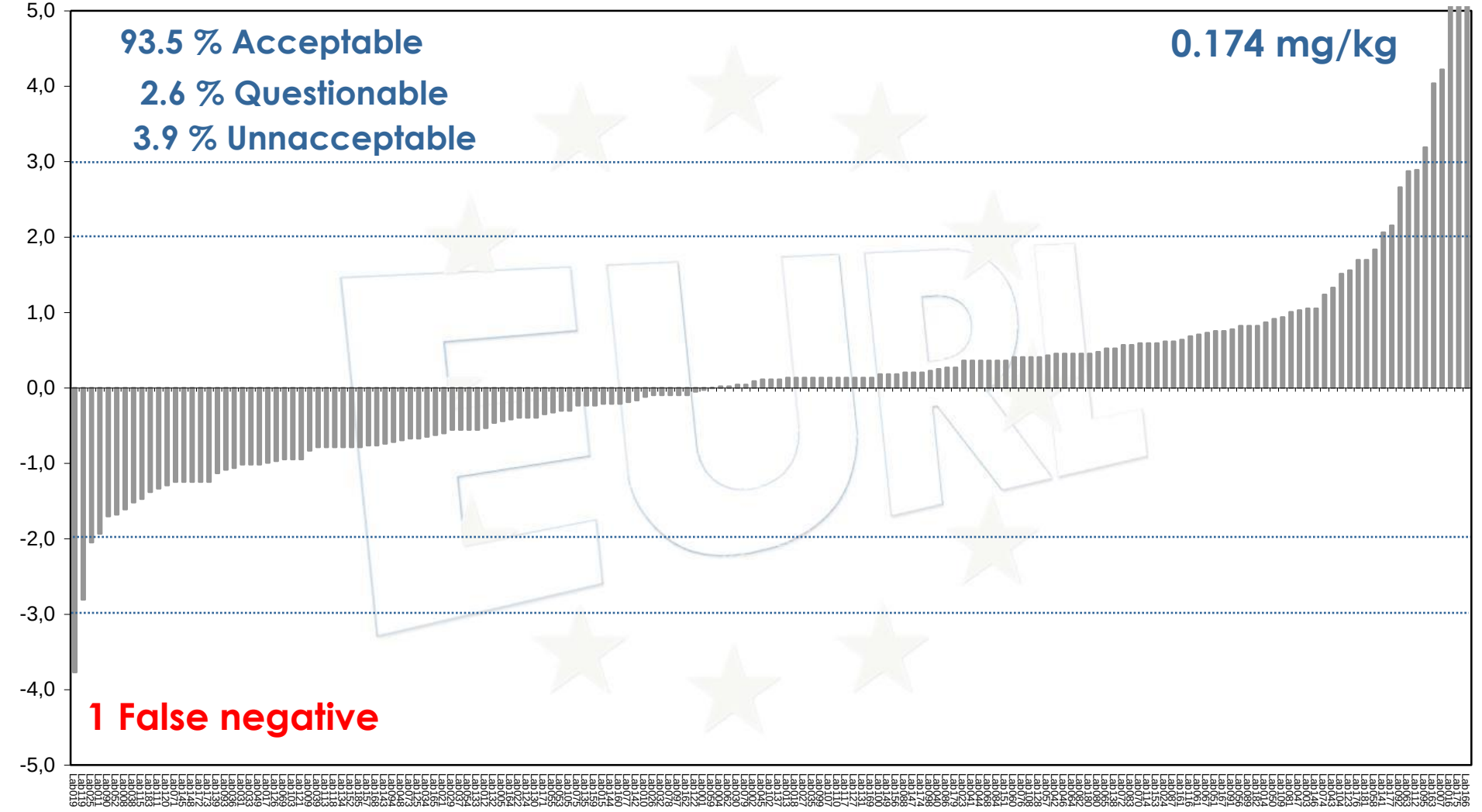
Pendimethalin

EU/EFTA Laboratories

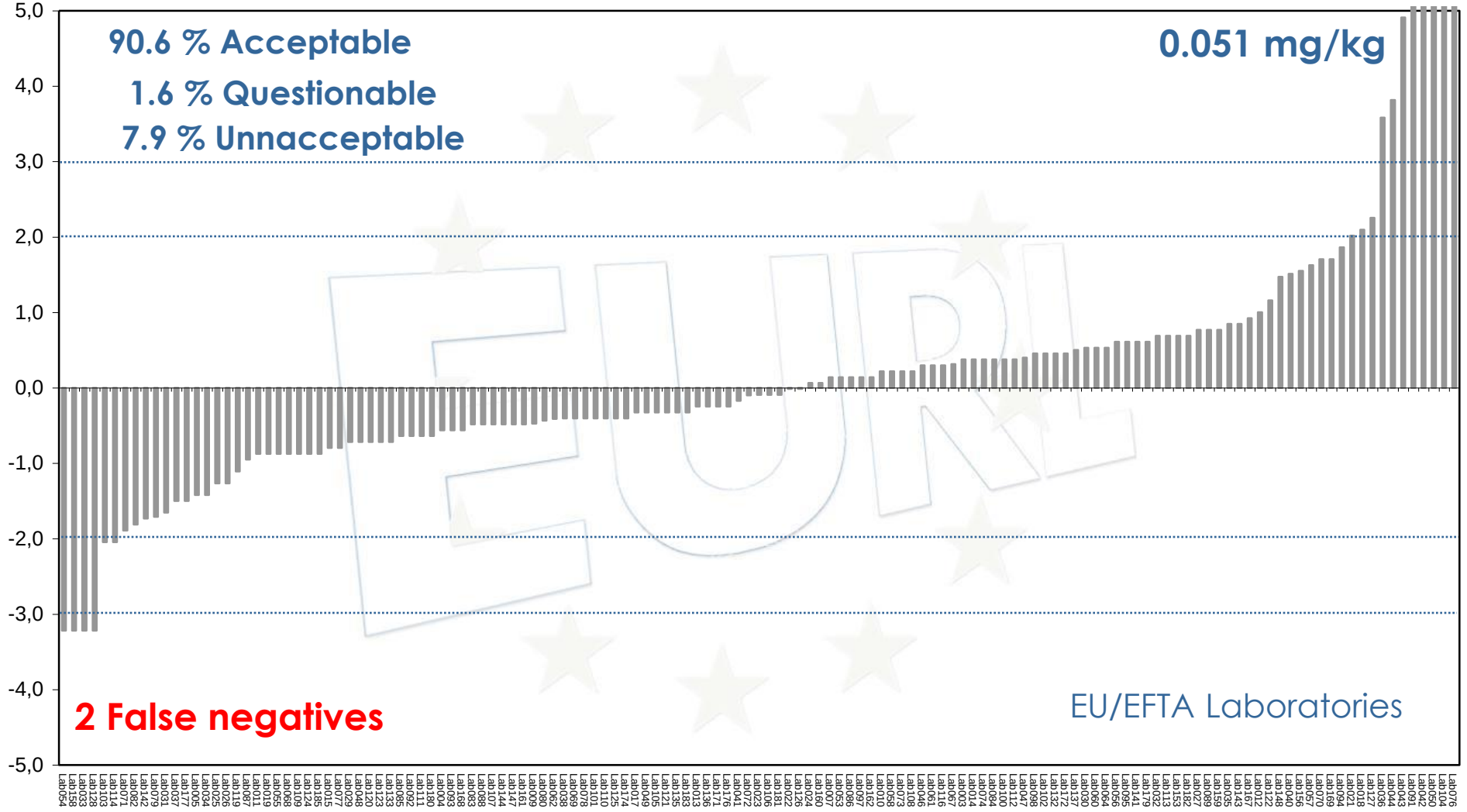


Permethrin

EU/EFTA Laboratories

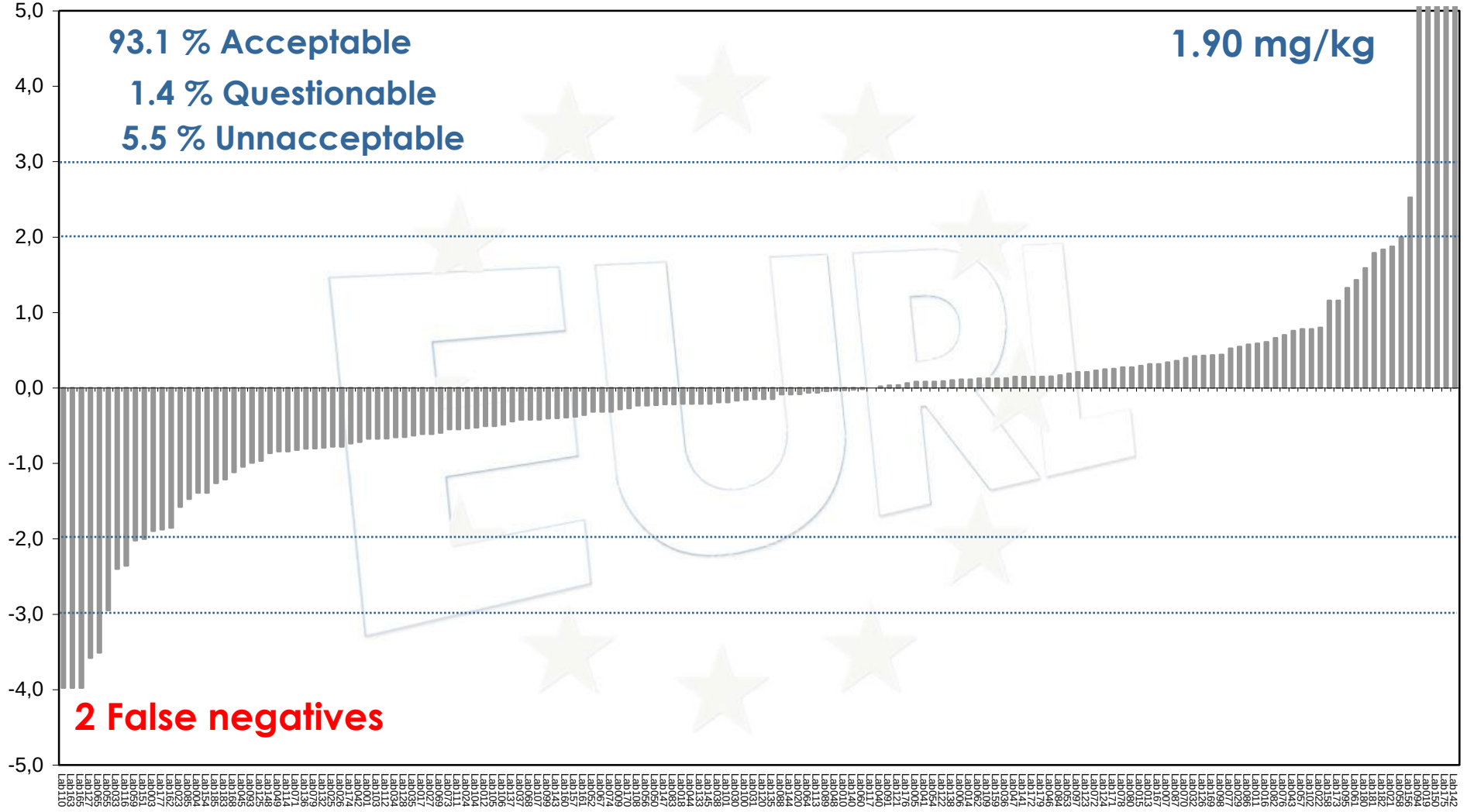


Spinosad (sum of spinosyn A a spinosyn D. expr. as spinosad)



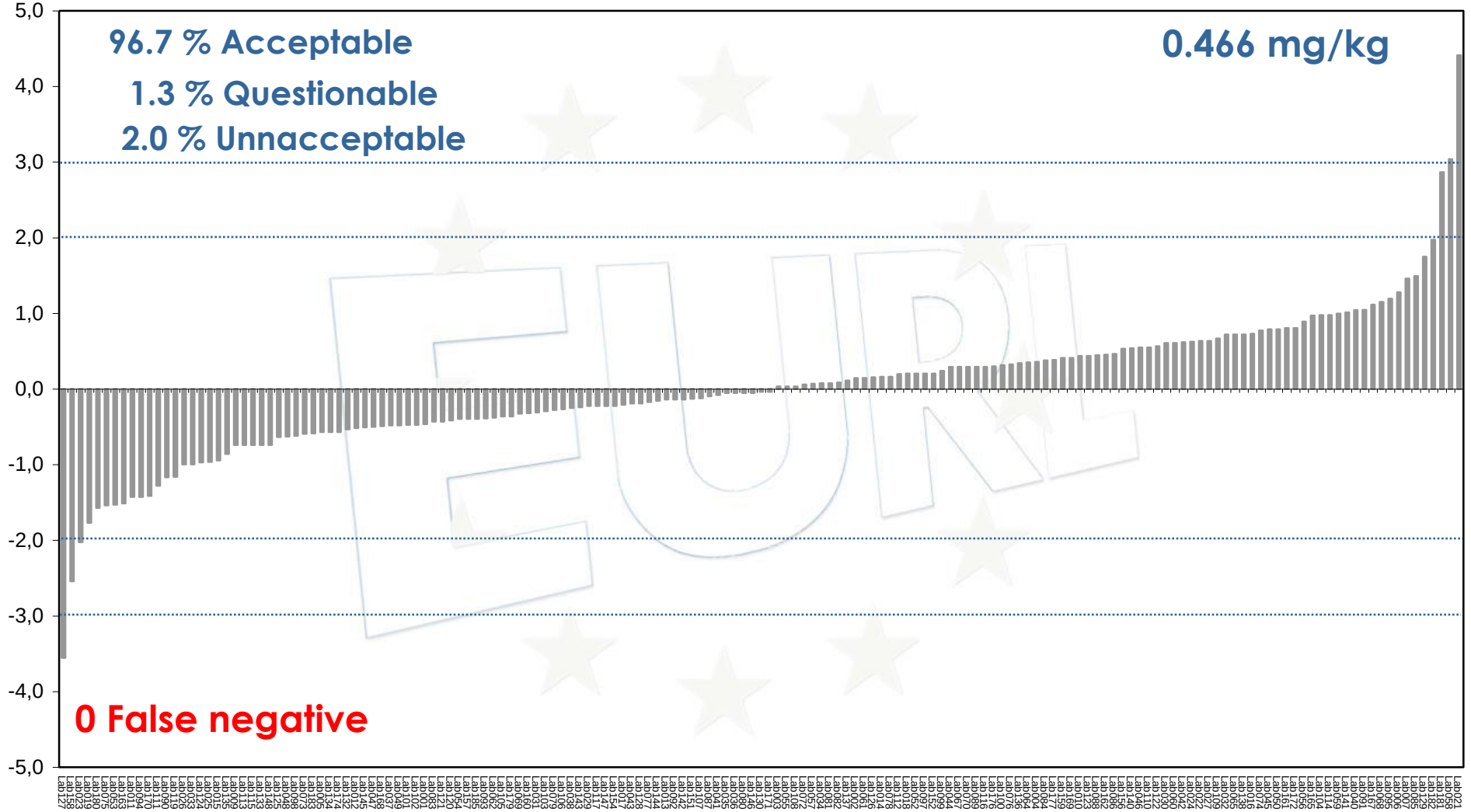
Thiabendazole

EU/EFTA Laboratories



Trifloxystrobin

EU/EFTA Laboratories



Combined z-Scores

Average of Squared z-Scores

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

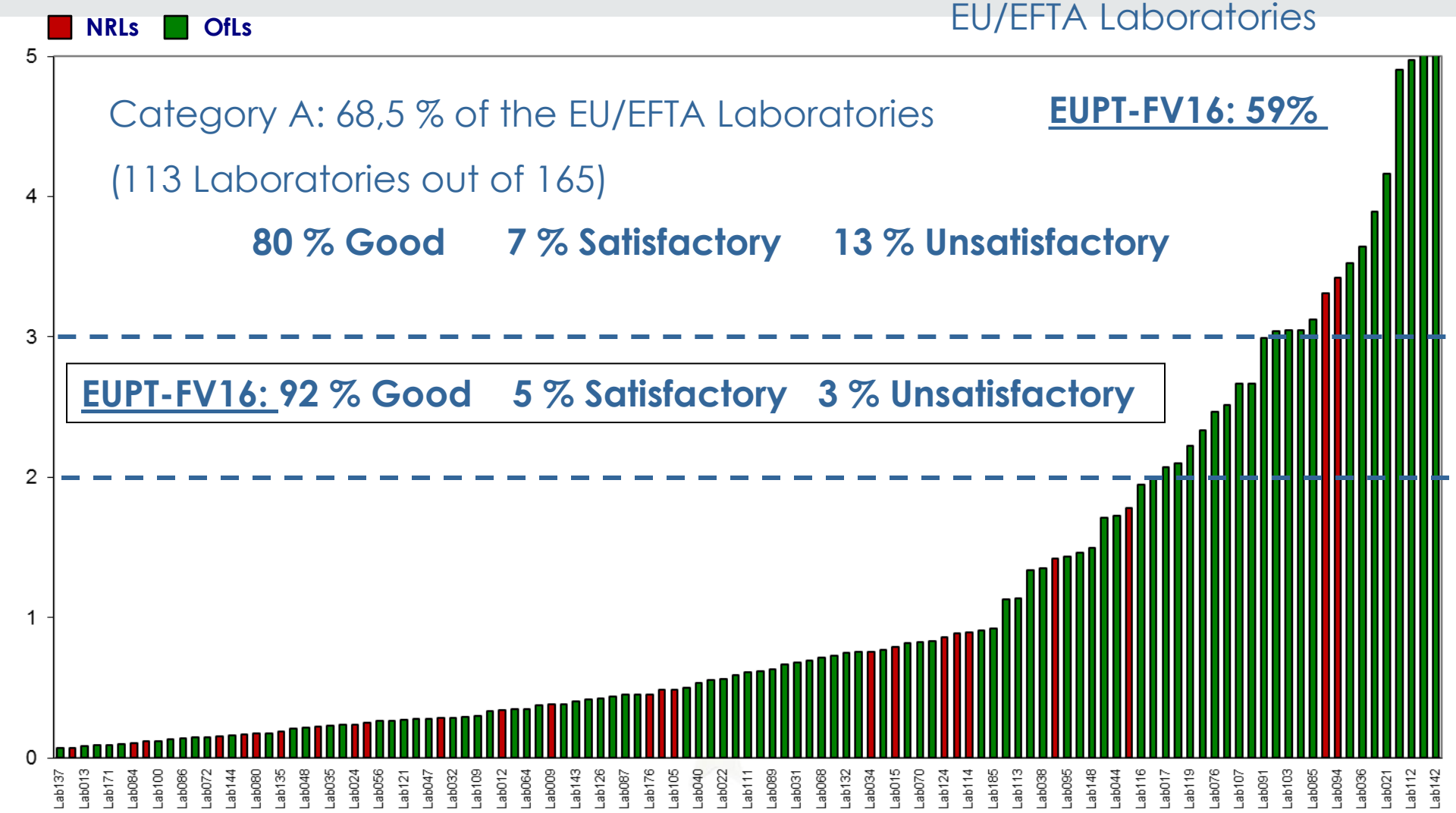
$AZ^2 \leq 2.0$ Good

$2.0 < AZ^2 < 3.0$ Satisfactory

$AZ^2 \geq 3.0$ Unsatisfactory

AZ² Representation

EU/EFTA Laboratories



Preliminary False Positives

6 different laboratories from EU/EFTA countries reported **6** pesticides as false positives

Preliminary False Positives

Laboratory Code	Pesticide	Concentration (mg/kg)	Determination Technique	RL (mg/Kg)	MRRL (mg/Kg)
Lab027	Bromopropylate	0.014	GC-MS/MS	0.01	0.01
Lab098	Bromopropylate	0.021	GC-MS	0.01	0.01
Lab051	Bromopropylate	0.039	GC-MS	0.01	0.01
Lab173	Carbaryl	0.020	GC-MS/MS	0.01	0.01
Lab158	Fenpropathrin	0.020	GC-MS	0.01	0.01
Lab164	Kresoxim-methyl	0.015	GC-MS/MS	0.01	0.01
Lab173	Orthophenylphenol	2.95	HPLC-UV	0.1	0.01
Lab173	Tetradifon	0.014	GC-MS/MS	0.01	0.01

Preliminary False Positives

GC-MS or GC-MS/MS

Bromopropylate

Carbaryl

Fenpropathrin

Kresoxim-methyl

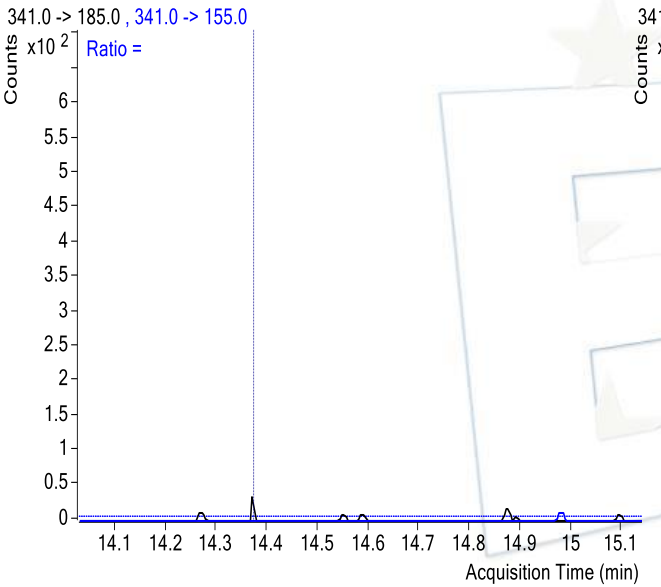
Tetradifon

HPLC-UV

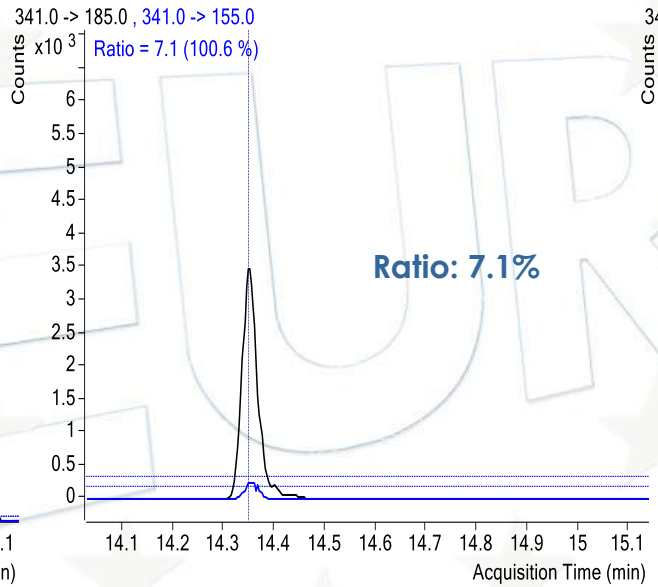
Orthophenylphenol

Bromopropylate in FV17

EUPT-FV17 Blank

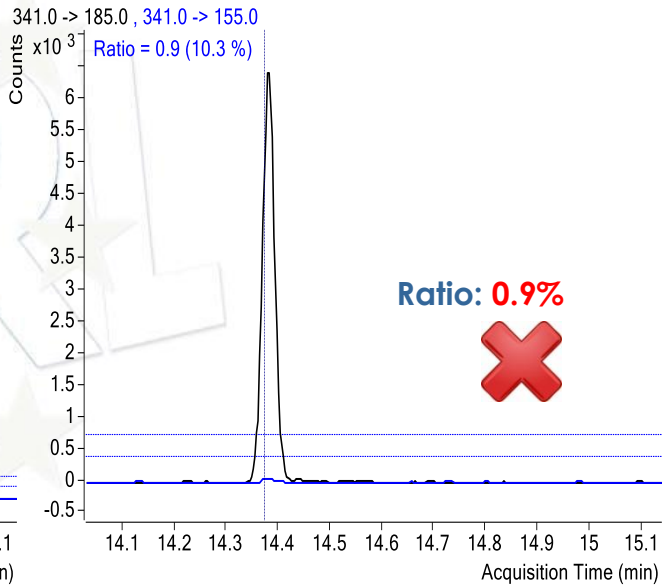


10 µg/kg Std in Broccoli



Ratio: 7.1%

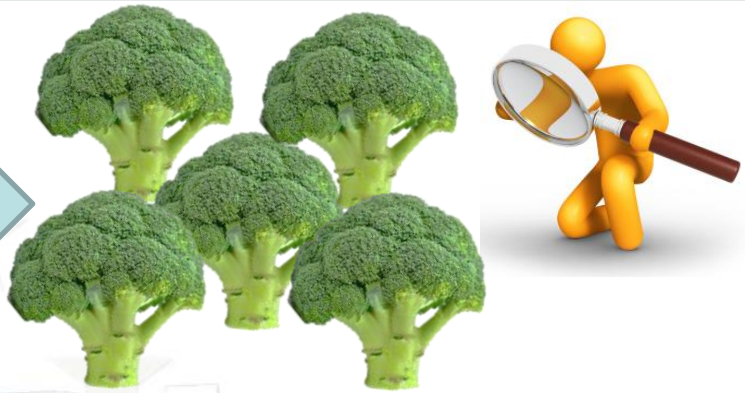
EUPT-FV17 Sample



Ratio: 0.9%

MRM1: 341 > 185
MRM2: 341 > 155

Bupirimate Carbendazim Diazinon
Difenoconazole Diflubenzuron
Methoxyfenozide Pendimetalin
Permethrin Spinosad
Thiabendazole Trifloxystrobin



Cyprodinil
Ethirimol
Fludioxonil

Concentrations below MRRL (0,01 mg/kg)

EUROPEAN COMMISSION PROFICIENCY TEST FOR PESTICIDE RESIDUES IN FRUITS AND VEGETABLES

EUPT-FV-SM07

European Proficiency Test FV-SM07

SCREENING METHODS 07

PRELIMINARY RESULTS WEBINAR

OCTAVIO MALATO
AND CARMEN FERRER

European Commission

EURL

European Union Reference Laboratories

Preparation of the test item

ACTIVITY	DATE
Publishing the Calendar and Matrix on the Web page.	17th December 2014
Receiving Application Form from invited laboratories.	12th Jan-13th Feb 2015
Specific Protocol published on the Web site.	23rd Feb 2015 at the latest
Sample distribution.	16th March 2015
Deadline for receiving results: Fill in "Results Page"	**72 hours after receiving the sample**
Preliminary Report: only results, no statistical treatment.	April 2015
Final Report distributed to the Laboratories.	December 2015

70 Participants

EUPT-FV-SM07- Participants with reported results			18 NRLs*
COUNTRY	**No.**	**COUNTRY**	**No.**
Austria	1*	Italy	1*+8
Belgium	2	Kenia	1
China	1	Latvia	1*
Croatia	1	Poland	2
Cyprus	1*	Romania	1*+1
Czech Republic	1*+2	Serbia	1
Denmark	1*	Slovenia	1*
Egypt	1	Spain	13
Estonia	1*	Sweden	1*+1
Finland	1*	Switzerland	1
France	1*+4	The Netherlands	1*+1
Germany	1*+8	Turkey	1
Greece	1*+1	UK	1*
Hungary	1*+3		

Austria
Belgium
Croatia
Cyprus
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Italy
Latvia
Netherlands
Romania
Slovenia
Spain
Sweden
Switzerland
United Kingdom

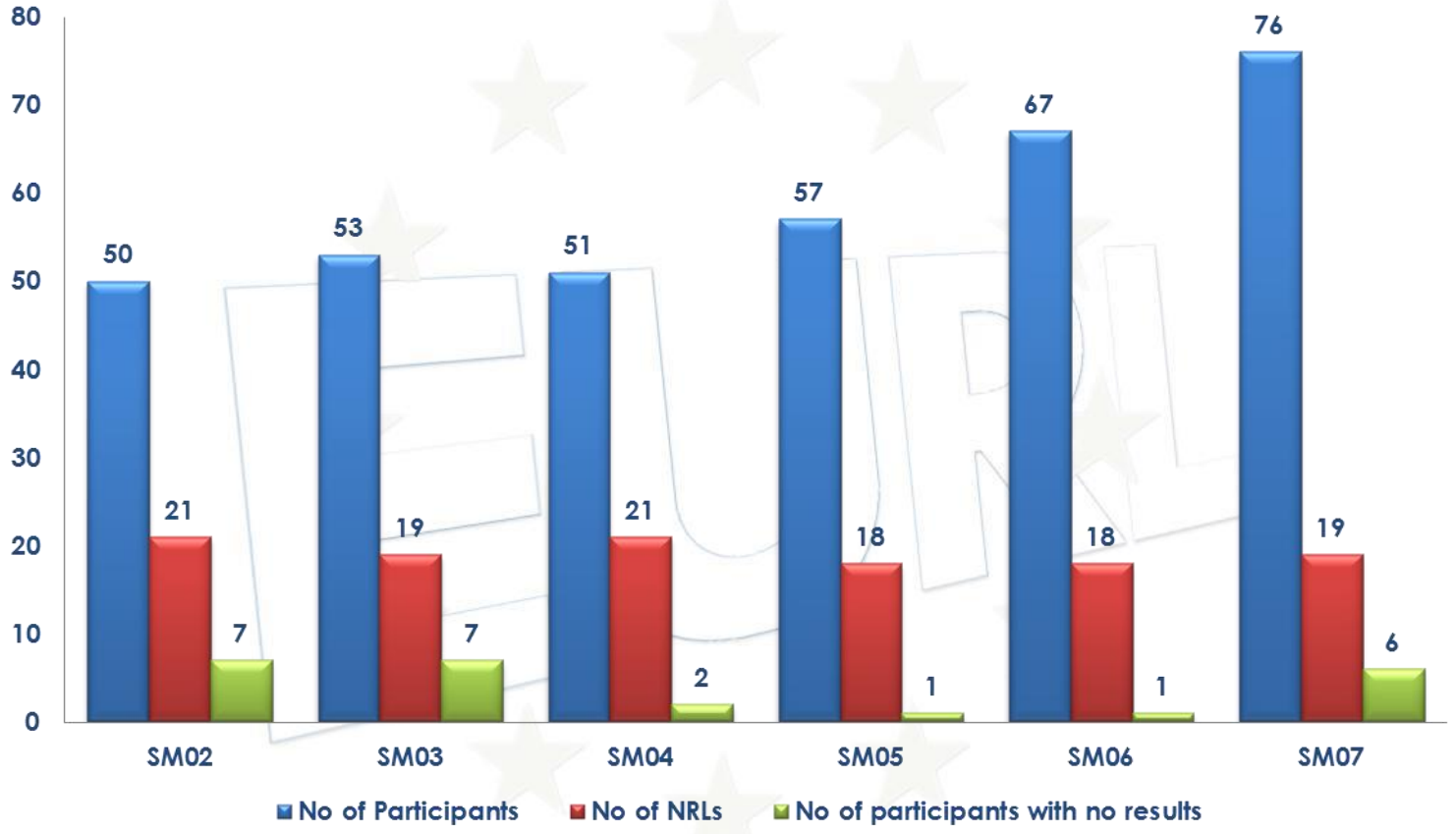
21 Participating EU/EFTA Countries

Bulgaria
Ireland
Lithuania
Luxembourg
Portugal
Slovakia

6 No Participating EU/EFTA Countries

China
Egypt
Kenia
Serbia
Turkey

5 Participating Non EU Countries


80
70
60
50
40
30
20
10
0
50
21
7
53
19
7
51
21
2
57
18
1
67
18
1
76
19
6
SM02
SM03
SM04
SM05
SM06
SM07
No of Participants
No of NRLs
No of participants with no results

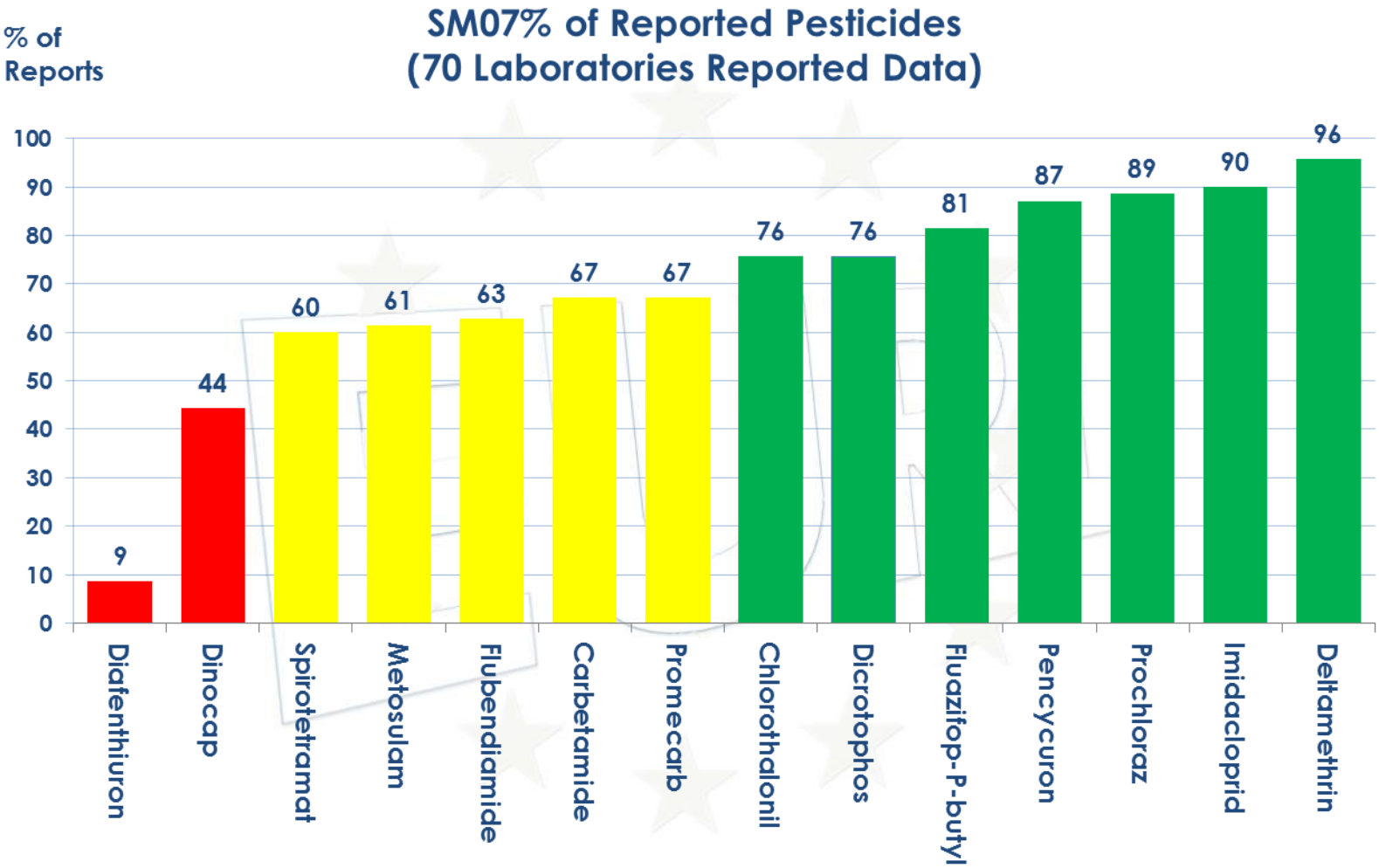
Pesticides used for the treatment

Carbetamide
Chlorothalonil
Deltamethrin
Diafenthiuron
Dicrotophos
Dinocap
Fluazifop-P-butyl
Flubendiamide
Imidacloprid
Metosulam
Pencycuron
Prochloraz
Promecarb
Spirotetramat

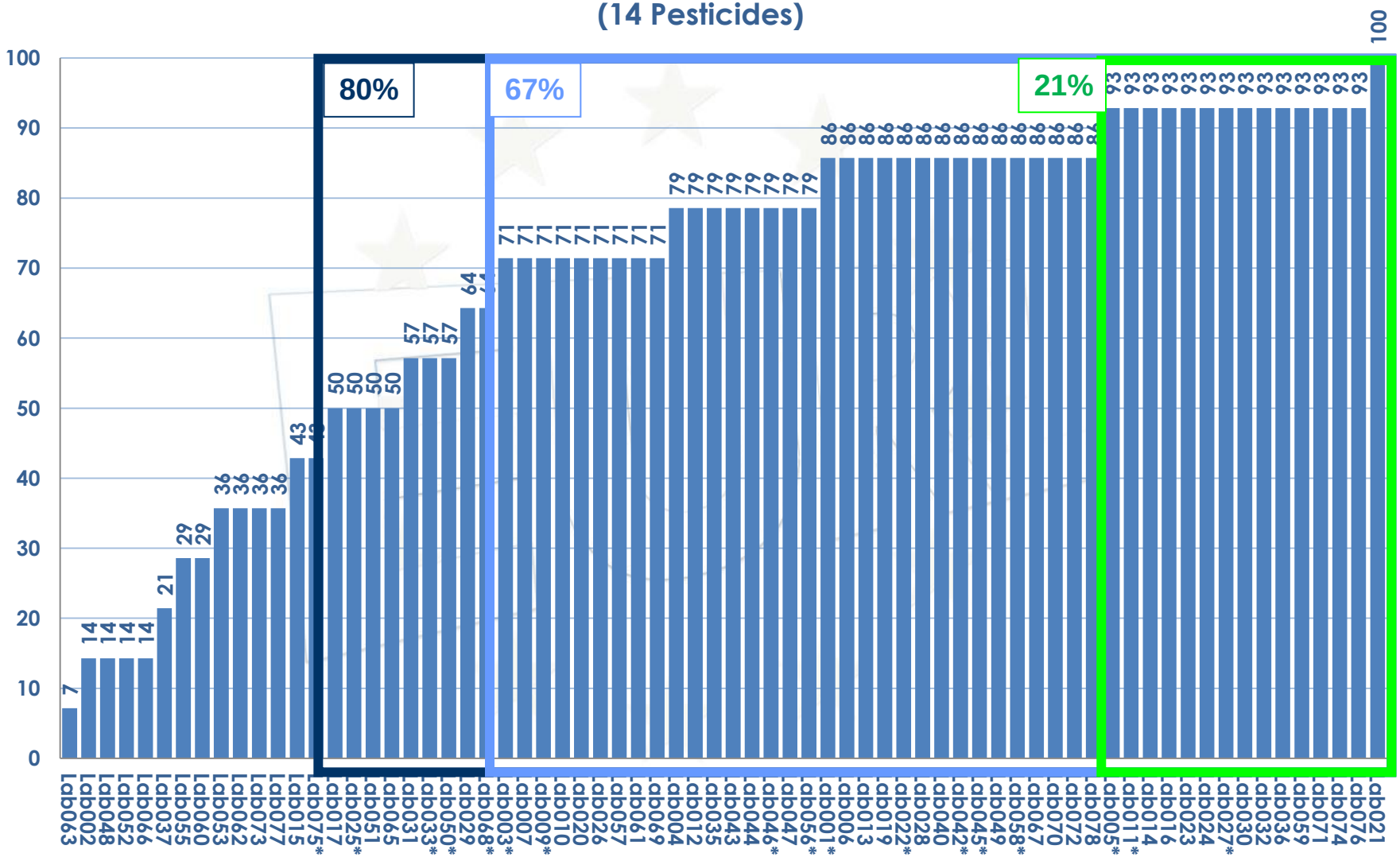
14 Evaluated Pesticides
70 Laboratories

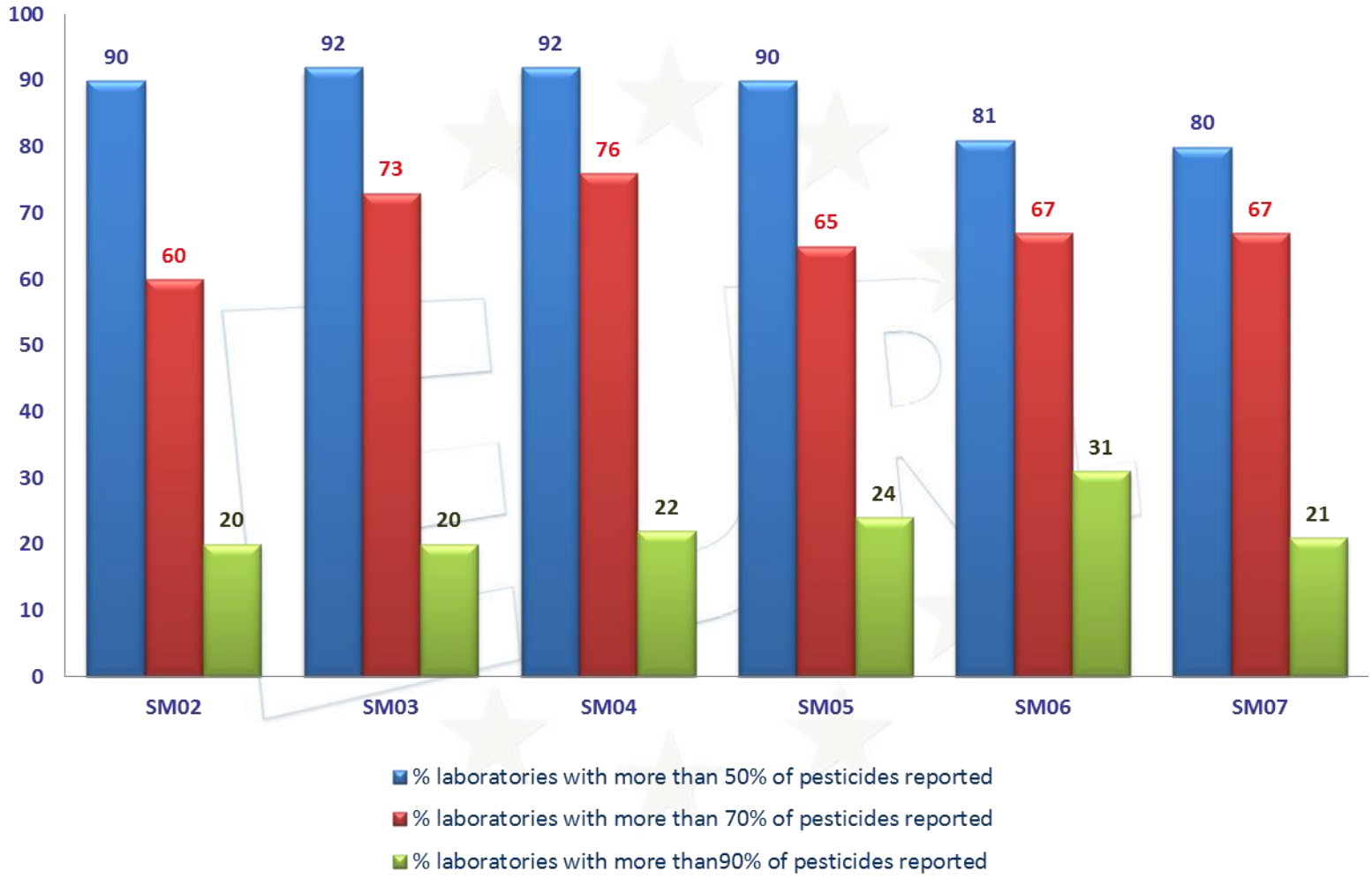
14 Pesticides= 2+5+7

	Carbetamide	Chlorothalonil	Deltamethrin	Diafenthiuron	Dicrotophos	Dinocap	Fluazifop-P-butyl	Flubendiamide	Imidacloprid	Metosulam	Pencycuron	Prochloraz	Promecarb	Spirotetramat
Total Number of Reported Pesticides	47	53	67	6	53	31	57	44	63	43	61	62	47	42
% of Reported Pesticides	67	76	96	9	76	44	81	63	90	61	87	89	67	60


SM07% of Reported Pesticides
(70 Laboratories Reported Data)
% of Reports
100
90
80
70
60
50
40
30
20
10
0
9
44
60
61
63
67
67
76
76
81
87
89
90
96
Diafenthiuron
Dinocap
Spirotetramat
Metosulam
Flubendiamide
Carbetamide
Promecarb
Chlorothalonil
Dicrotophos
Fluazifop-P-butyl
Pencycuron
Prochloraz
Imidacloprid
Deltamethrin

SM07 % of Reported Pesticides
(14 Pesticides)




100
90
80
70
60
50
40
30
20
10
0
90
60
20
92
73
20
92
76
22
90
65
24
81
67
31
80
67
21
SM02
SM03
SM04
SM05
SM06
SM07
% laboratories with more than 50% of pesticides reported
% laboratories with more than 70% of pesticides reported
% laboratories with more than90% of pesticides reported

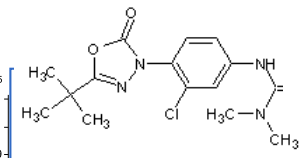
These pesticides have been repoted by 3 or more laboratories :

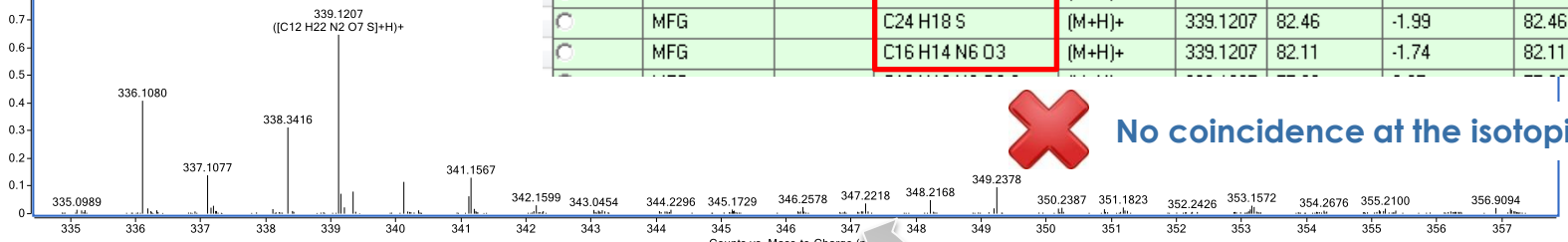
- Dimefuron
- Metamitron
- Monochrotofos
- Mepthyl Dinocap

Sample 34 SM07 analysed by LC-QToF-MS

Dimefuron

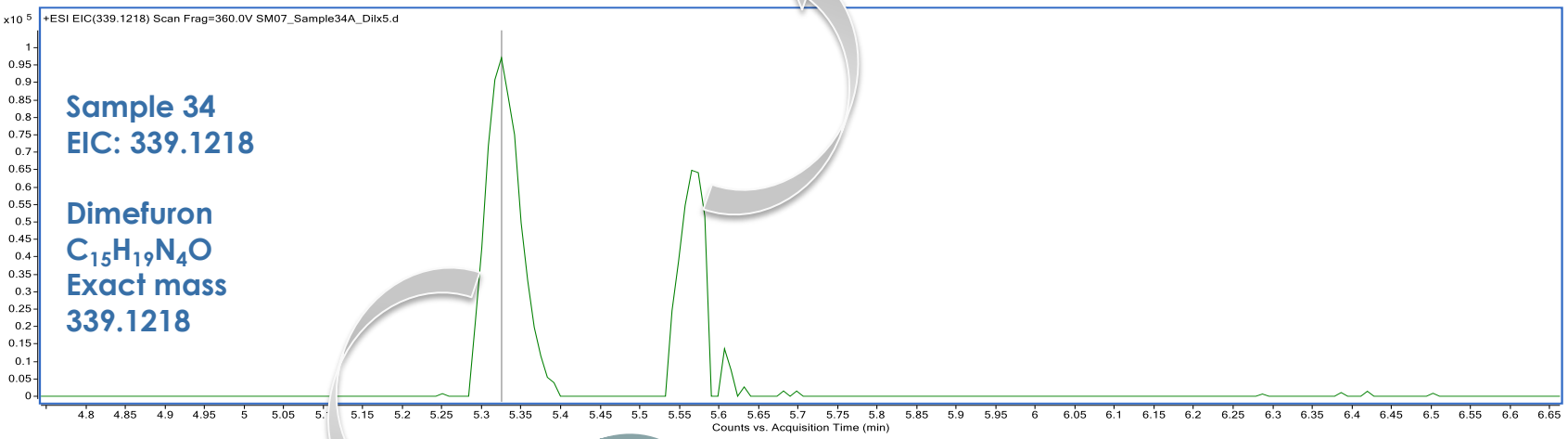
Dimefuron





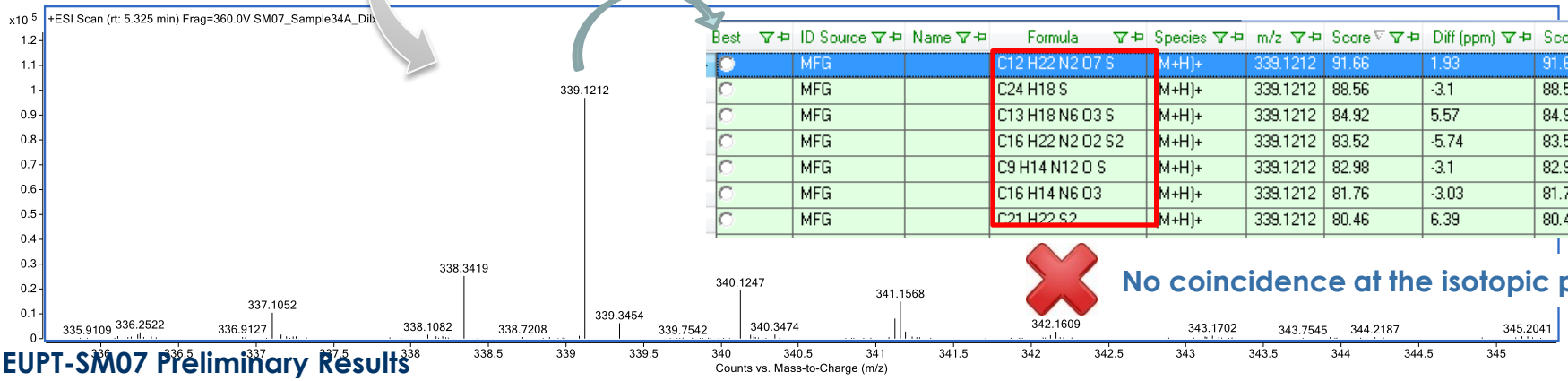
Best	ID Source	Name	Formula	Species	m/z	Score	Diff (ppm)	Score (MFG)
	MFG		C12 H22 N2 O7 S	(M+H)+	339.1207	88.55	3.01	88.55
	MFG		C16 H22 N2 O2 S2	(M+H)+	339.1207	83.74	-4.71	83.74
	MFG		C9 H14 N12 O S	(M+H)+	339.1207	82.56	-2	82.56
	MFG		C24 H18 S	(M+H)+	339.1207	82.46	-1.99	82.46
	MFG		C16 H14 N6 O3	(M+H)+	339.1207	82.11	-1.74	82.11

No coincidence at the isotopic pattern



Sample 34
EIC: 339.1218

Dimefuron
$C_{15}H_{19}N_4O$
Exact mass
339.1218

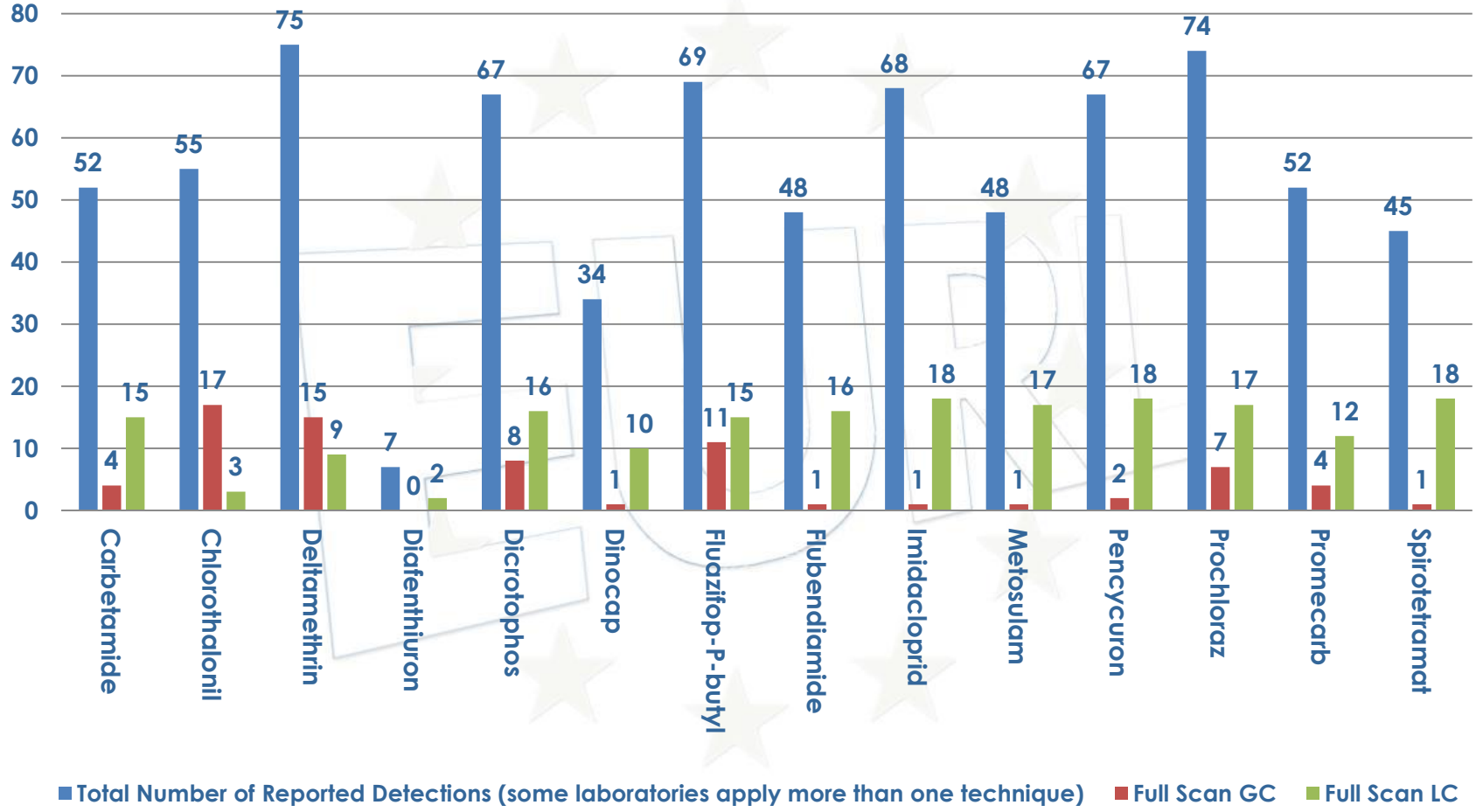


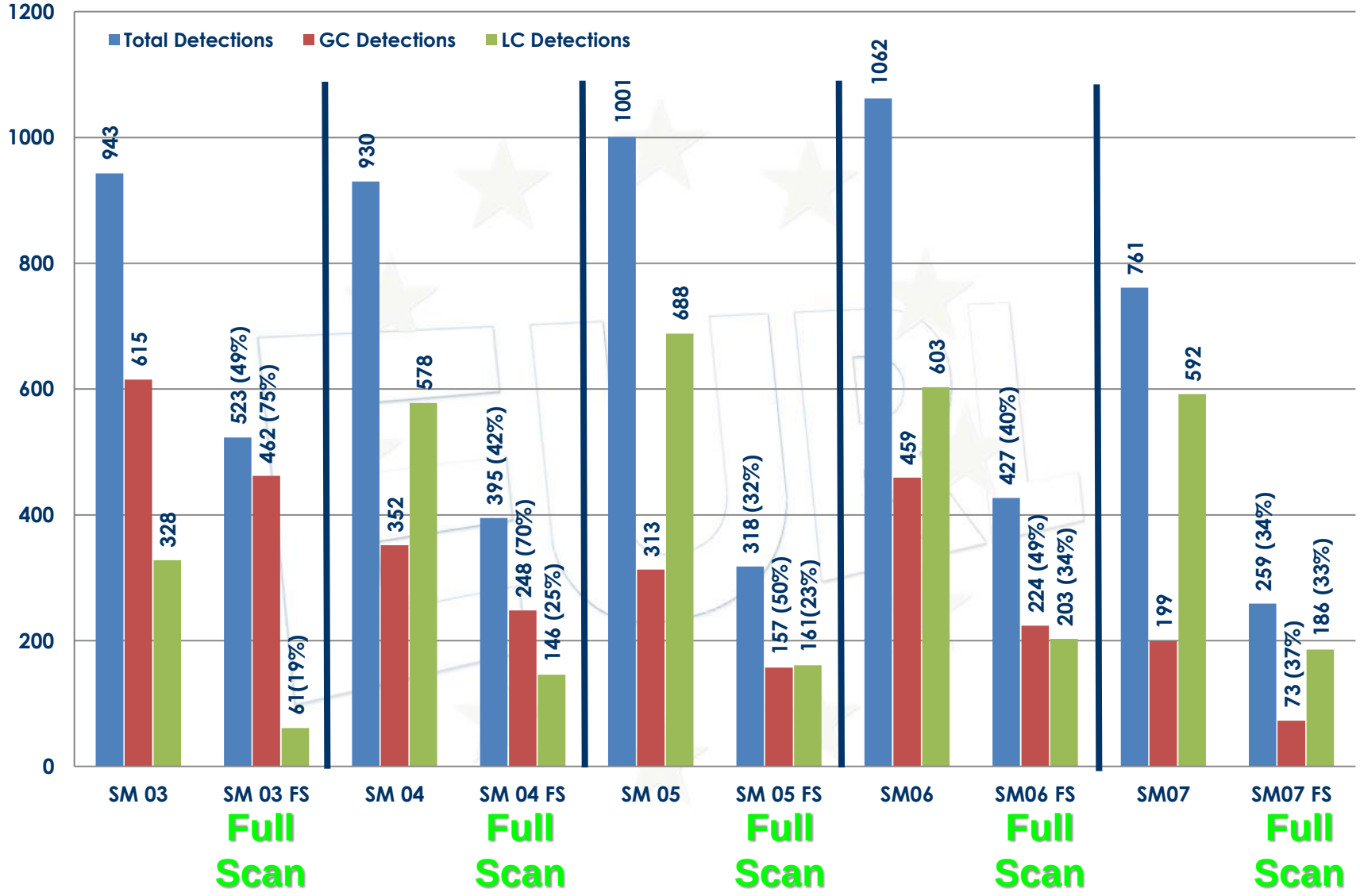
Best	ID Source	Name	Formula	Species	m/z	Score	Diff (ppm)	Score (MFG)
	MFG		C12 H22 N2 O7 S	M+H)+	339.1212	91.66	1.93	91.66
	MFG		C24 H18 S	M+H)+	339.1212	88.56	-3.1	88.56
	MFG		C13 H18 N6 O3 S	M+H)+	339.1212	84.92	5.57	84.92
	MFG		C16 H22 N2 O2 S2	M+H)+	339.1212	83.52	-5.74	83.52
	MFG		C9 H14 N12 O S	M+H)+	339.1212	82.98	-3.1	82.98
	MFG		C16 H14 N6 O3	M+H)+	339.1212	81.76	-3.03	81.76
	MFG		C21 H22 S2	M+H)+	339.1212	80.46	6.39	80.46

No coincidence at the isotopic pattern

EUPT-SM07 Preliminary Results

SM-07 Techniques




Total Detections
GC Detections
LC Detections
1200
1000
800
600
400
200
0
943
615
328
523 (49%)
462 (75%)
61(19%)
930
352
578
395 (42%)
248 (70%)
146 (25%)
1001
313
688
318 (32%)
157 (50%)
161(23%)
1062
459
603
427 (40%)
224 (49%)
203 (34%)
761
199
592
259 (34%)
73 (37%)
186 (33%)
SM 03
SM 03 FS
SM 04
SM 04 FS
SM 05
SM 05 FS
SM06
SM06 FS
SM07
SM07 FS
Full Scan
Full Scan
Full Scan
Full Scan
Full Scan

LAB. CODE	Lab001*	Lab002	Lab003*	Lab004	Lab005*	Lab006	Lab007	Lab009*	Lab010	Lab011*	Lab012	Lab013	Lab014	Lab015
Total Detections	12	2	12	16	13	12	10	10	11	13	11	12	25	6
GC Detections	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LC Detections	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Full Scan	12	2	6	16	?	12	10	0	0	6	2	3	12	6
GC Full Scan	2	2	6	5	?	2	5	0	0	5	2	3	0	0
LC Full Scan	10	0	0	11	?	10	5	0	0	1	0	0	12	6

LAB. CODE	Lab016	Lab017	Lab019	Lab020	Lab021	Lab022*	Lab023	Lab024	Lab025*	Lab026	Lab027*	Lab028	Lab029	Lab030
Total Detections	22	7	12	11	14	12	14	13	7	10	13	12	9	24
GC Detections	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LC Detections	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Full Scan	6	0	0	0	0	0	?	10	0	0	0	0	0	11
GC Full Scan	6	0	0	0	0	0	?	0	0	0	0	0	0	0
LC Full Scan	0	0	0	0	0	0	?	10	0	0	0	0	0	11

LAB. CODE	Lab031	Lab032	Lab033*	Lab035	Lab036	Lab037	Lab040	Lab042*	Lab043	Lab044	Lab045*	Lab046*	Lab047	Lab048
Total Detections	8	13	14	12	13	5	12	24	11	11	12	20	11	2
GC Detections	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LC Detections	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Full Scan	0	12	6	11	0	2	1	12	3	0	0	0	0	0
GC Full Scan	0	0	0	3	0	2	1	0	0	0	0	0	0	0
LC Full Scan	0	12	6	8	0	0	0	12	3	0	0	0	0	0

LAB. CODE	Lab049	Lab050*	Lab051	Lab052	Lab053	Lab055	Lab056*	Lab057	Lab058*	Lab059	Lab060	Lab061	Lab062	Lab063
Total Detections	12	8	7	2	5	4	11	10	12	14	4	10	5	1
GC Detections	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LC Detections	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Full Scan	0	0	7	2	0	2	0	0	9	0	0	3	1	1
GC Full Scan	0	0	2	2	0	2	0	0	0	0	0	3	1	1
LC Full Scan	0	0	5	0	0	0	0	0	9	0	0	0	0	0

LAB. CODE	Lab065	Lab066	Lab067	Lab068*	Lab069	Lab070	Lab071	Lab072	Lab073	Lab074	Lab075*	Lab076	Lab077	Lab078
Total Detections	7	2	12	9	10	12	13	24	5	13	6	13	5	12
GC Detections	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3	6	2	1
LC Detections	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3	7	3	11
Total Full Scan	3	2	12	0	7	0	13	11	0	13	0	0	0	12
GC Full Scan	3	2	12	0	0	0	0	0	0	0	0	0	0	1
LC Full Scan	0	0	0	0	7	0	13	11	0	13	0	0	0	11

EUPT-FV-SM07
European Proficiency Test FV-SM07

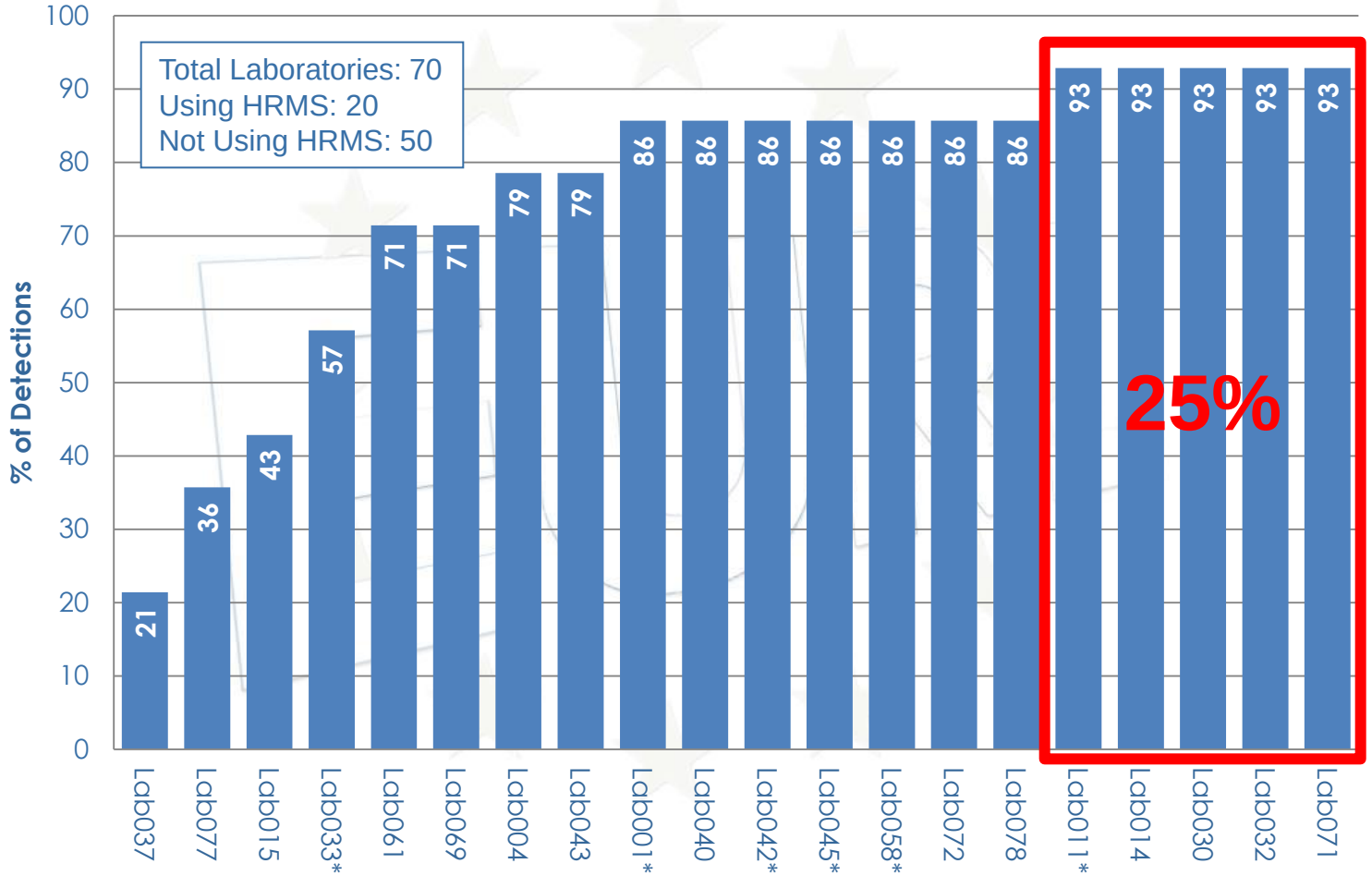
Total Detections: 761
Total Full Scan: 259
(34% of the Total)

GC Detections: 199
GC Full Scan: 73
(37% of the Full Scan)

LC Detections: 562
LC Full Scan: 186
(33% of the Full Scan)

Laboratories Using HRMS

Using HRMS: 20
≥ 90% Detections: 5



Thank You
for Your Attention

EURL EUROPEAN UNION REFERENCE LABORATORY